



Prof. P. K. Khanna, PhD (IIT-Bombay), FMHAsc

Head, Dept. of Applied Chemistry and Ex-Dean (Acs)

Defence Institute of Advanced Technology (DIAT), Pune 411 025, India

Tel # +91-20-24304161(Chem.), Fax # +91-20-24389360, +91-20-22951649(R)

Email: khannap@diat.ac.in; pawankhanna2002@yahoo.co.in

Editorial Board Member: Defence Science Journal, DRDO, (2015)

Editorial Board Member: Int J Green Nanotechnology (T&F USA)

Editorial Board Member: Int. J. Nanotechnology and Adv. Materials (nature publishing)

Guest Editor of Special issue of Int. Journal on Green Nanotechnology (Taylor and Francis,)

Editorial Board Member of Asian Polymer Journal (Formerly Asian Chitin Journal): An Int. Journal, 2012

CHAIRMAN- National Conf. on Chemistry of Chalcogens (NC3-2015), 12-13, Jan 2014, Pune, India

CHAIRMAN- RSC (UK) supported National Conf. called i-CNT, Oct 29-30, 2013, Pune, India

CHAIRMAN- National Conf. on Chemistry of Chalcogens (NC3-2013), 14-15, Jan 2013, Pune, India

CHAIRMAN- Int. Conf. Adv. Funt. Mater. For Defence (ICFMD-2012), 18-20 May 2012, Pune, India

SECRETARY-Int. Symposium on Materials Education (ISME-2011), Pune 26-28 March, 2011, Pune, India

Co-CONVENER-Int. conf. on Nanotechnology-(NANOCON 10), Pune 14-15th October, 2010, Pune, India

CONVENER-Int. Conf. on Nanomater for Electronics (ICNME-2006), Nov. 27-29, 2006, Pune, India

Career Objectives: A career involving Teaching and R&D on Inorganic /Materials Chemistry, Nano-chemistry and Nano-materials with particular emphasis on Magic-size NCs, quantum dots of semiconductors and metal nano-particles for defence, energy, electronics and opto-electronics, bionanotechnology & for general applications

Personal details: Born; March 23, 1963; married (2 children aged 19 and 14 years)

Research /Training /Employment History

Year	Institution	Position	Nature of work
10/1989-9/1992	a) Queens' University of Belfast, UK	Post-doc Res	Research in Organometallics
	b) University of Wales, Swansea, UK	Post-doc Res	Organometallic chemistry of selenium
2/1993 12/1993	Private Sector, Mumbai India	Research Executive	Research and Development in Organosilicon
1/1994 7/1995	IIT-Bombay, India	RA(CSIR-pool)	Transition Metal Chemistry
7/1995 6/1999	C-MET, Pune, India	Scientist-C	R & D in Organometallic & Materials Chemistry
3/1998 3/1999	University of St. Andrews, Scotland, UK	BOYSCAST Fellow (DST, Govt of India)	Research on Quantum dots of CdS from Organometallics
7/1999 6/2004	C-MET, Pune, India	Scientist-D	R & D in Organometallic & Nano- Materials/Quantum dots
2003 & 2004	Korea Research Institute of Chemical Technology, (KRICT) Daejeon, S.Korea	Brain Pool and Int. Fellow	Quantum dots of InP and PbSe from Organometallic reagents
7/2004 2/2011	C-MET, Pune, India	Scientist-E	R&D-NanoMaterials/Quantum dots
2008-09	KRICT Daejeon, S.Korea	BrainPool Scient	R&D on metal NPs for petroleum
2/2011 present	- DIAT, DRDO, Pune	Professor&HOD, Ex-Dean (Acs.)	Nanotechnology via Inorganic & Organometallic Chemistry

Education

Degree	Institution	Field(s)	Year
B.Sc.	Bundelkhand University, Jhansi, India	Chemistry	1979-81
M.Sc. (67%)	Bundelkhand University, Jhansi, India	Inorganic Chemistry	1981-83
Ph.D.* (cpi=7.54)	Indian Institute of Technology (IIT), Bombay, India	Organometallic Chemistry	1984-89/90

*Synthesis and reactions of ditellurides and tellurides, Ph.D. thesis, IIT, Bombay, India submitted in 1989, awarded in June 1990, Ph.D. advisor: Prof. H. B. Singh (SUBMITTED MY PHD THESIS AT THE AGE OF 26 YEARS AND 6 MONTHS)

Major Field of Interest:

- i) Nanotechnology via solution chemistry
- ii) Applied R & D in Nano-chemistry and Organometallic chemistry of selenium and tellurium
- iii) Quantum dots and Magic-sized NCs of semiconductor and their applications in solar cells and biology
- iv) Photocatalysis-effluent treatment
- v) R&D on nano-particles of metals and their chalcogenides
- vi) R&D on inorganic/polymer nano-composites e.g. QDs/metal/polymer
- vii) Nano-inks for electronics and Nanofluids for engineering applications
- viii) Sol-Gel Chemistry (mostly for nano-oxides)
- ix) Metal nano-particles for petroleum energy
- x) Metal Nano-particles for High Energy defence reagents

Awards/Fellowships/Honours:

- 1) **Editorial Board Member: Defence Science Journal, DRDO, (2015)**
- 2) **DIAT DRDO Researcher of the Year 2013**
- 3) **MRSI Medal Winner 2010** (Materials's Research Society of India)
- 4) **Ex-Member MRS-Singapore 2013-15**
- 5) Life member of Society for Materials Chemistry, BARC, Mumbai, India
- 6) **Editorial Board Member ; Frontiers in. Materials (Thin solid films) nature publishing**
- 7) **Editorial Board Member ; Int. J. Nanotechnology and Adv. Materials (nature publishing)**
- 8) **Guest Editor** of Special issue of International Journal on Green Nanotechnology:Physics and Chemistry (Taylor and Francis, USA)
- 9) **Editorial Board Member** of Asian Polymer Journal (Formerly Asian Chitin Journal): An International Journal, 2012
- 10) **Editorial Board Member of International J. on Green Nanotechnology:Physics and Chemistry** (Taylor and Francis, USA)
- 11) Brain Pool Research Scientist, 2008-09, S. Korea
- 12) **Winner of first prize for the best poster presentation award for, 'In situ synthesis of silver nano-particles in poly(ethylene glycol methacrylate phosphate) via photo-polymerization process and its application to uranium ion adsorption' 2nd Int. Symposium on Adv. Mater. & Polymers For Aerospace And Def. Applications (SAMPADA-2008) Dec 8-12, 2008, Pune, India**
- 5) **Best poster presentation award for 'Studies on Light Emitting 'Magic Number' CdSe in Commercial Polymethylmethacrylate', SAMPADA-2008, Dec 8-12, 2008, Pune, India**
- 5) **Winner of the best poster presentation award for, Silver nano-particles in poly(ethylene glycol methacrylate phosphate) and its application to uranium ion adsorption' DAE-BRNS International Symposium on Materials Chemistry (ISMC-2008) December 2-6, 2008, Bhabha Atomic Research Centre, (BARC), Mumbai, India**
- 7) **Elected Fellow of Maharashtra Academy of Sciences (FMASc), 2008, India**
- 8) **1st Prize winner at UK-Indo Workshop on Nanotechnology: "Making the leap towards commercialization"** organized by the British Council, Mumbai & NCL Innovation cell at Venture center, NCL, Pune, India, January 7-10, 2008 (jointly with, Dr Lele, Dr BLV Prasad of NCL-no certificate was awarded)
- 9) **Guest Editor of Special issue of 'J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chem.'** (Taylor & Francis, USA) vol. 37(1/2), 2007.
- 10) **Winner of best poster presentation award for 'Novel Approach to Transition Metal Phosphides', National workshop on Nanomaterials and Nanotechnology, University Lucknow and MRSI Lucknow, March 24-25, 2007**
- 11) **Expert group member of Department of Biotechnology (DBT) Govt. of India, core committee on nanobiotechnology (2006-2011 & 2011 till present)**
- 12) **Expert group member of Department of Biotechnology (DBT) Govt. of India, core committee for setting up of nanobiotechnology center at IIT Guwahati (2008-2013)**
- 13) **Winner of best poster presentation award for 'Nanotechnology via solution chemistry' at 17th AGM-MRSI, Lucknow, India, Feb. 13-15, 2006**
- 14) **First prize winner for poster presentation** in "Raman Memorial Conference", University of Pune, India, Feb. 24-25, 2006
- 15) **First prize winner for poster presentation** in "Raman Memorial Conference", University of Pune, India, Feb. 25-26, 2005
- 16) Invited for membership-American association for the advancement of science, 2003
- 17) Listed in Marquis who's who in Sc. & Engg, 2003-04
- 18) Brain pool research fellowship, 2003, S. Korea
- 19) Visiting scientist, KRICT, 2004, S. Korea

- 20) **Second best Poster Award** for the paper “**Thick film heat flux sensors using Ag/Ag-Pd thermopiles on alumina substrates**”, Presented in 8th National Seminar on Physics and Technology of Sensors (NSPTS), Indira Gandhi Centre for Atomic Research (IGCAR), Feb. 27th to Mar. 1st, 2001 at Kalpakkam, India.
- 21) Life member of Materials Research Society of India
- 22) Ex-associate member of Royal Soc. Chem., London
- 23) Boyscast fellowship (DST), Govt. of India, 1998-99
- 24) Research guide of Pune University, 2005-13, Pune
- 25) Research Guide of Bharti Vidyapeeth, 2002-07, Pune
- 26) Guest lecturer, Bharti Vidyapeeth, 2001, Pune
- 27) Associate member of Institute of Nanotechnology, UK
- 28) Post-doctoral fellow (CSIR), IIT-Bombay, 1994-95
- 29) SERC British post-doc-1989-92, UK
- 30) JRF/SRF (IIT-Bombay)-1984-89 and SRF-CSIR 1989

Association with scientific publishers:

Reviewer of the following journals: Chem. Mater. (ACS), J. Nanoparticles Res., (Springer), JNN (ASP J. Mater. Sc (Elsevier), Synthetic Metals, (Elsevier), Applied Nanosciences, Mater. Chem. Phys., (Elsevier), Mater. Lett., (Elsevier). Eu. Poly. J., Ind. J. Chemistry **A**, Bull. Mater. Res. (MRSI) (Springer) and Indian Defence Journal., Colloids and Surfaces A: Physicochemical & Engineering Aspects, Applied Clay Science etc. (Elsevier), J Alloys & Composites, etc

Expert committee member of the scientific bodies:

DBT-2006-09 & 2009-2012 (Nanobiotechnology), DIT (Nanotechnology initiative: 2003) of Govt. of India

DBT-2009-2014 –Nanobiotechnology for IIT Guwahati

International Research Collaboration:

Prof. Andrew Grimsdale, (NTU, Singapore) Prof. R Renugopal Krishnan (USA), Dr. S. Priyadarshy (USA), Prof. C.P. Morley (University of Wales, Caediff), Prof. D. J. Cole-Hamilton (University of St. Andrews) UK, Dr. K-W Jun, Dr. J-O. Baeg (S.Korea) Prof. Sergey Maskimenko (BSU, Minsk, Belarus). Prof. Jin Hyeok Kim, Chonnam National Univ. Gwangju, S. Korea)

Conferences/symposia/workshops organized:

1. International Symposium on Homogeneous Catalysis, University of St. Andrews, Fife, Scotland, UK, July, 11-17, 1998 (**Organizing volunteer**)
2. One-Day Workshop on Materials Characterization and Testing Organized at C-MET, Pune, India, Feb.22, 2001 (**Organizing member**)
3. Half-day Symposium on nano-materials-Recent Happenings, Organized by Materials Research Society of India (MRSI) Pune chapter, University of Pune, India, August 8, 2003 (**Convener/co-ordinator**)
4. One-day seminar on Advanced Surface Engineering, Organized by MRSI, IIM and Multi-arc (I) Ltd, Pune, Jan. 8, 2004 (**Organizing member**)
5. MRSI 16th AGM, Feb. 10-12, 2005 NCL, Pune, (**Organizing committee member**)
6. Convener of ICNME, International Conference on Nanomaterials for Electronics (ICNME-2006), Nov. 27-29, 2006, Pune, India (**Convener**)
7. Foundation day celebration of C-MET, March 8, 2000, 2003 and 2007 Pune, India (**Compere**)
8. Organizing member of International Symposium on Advanced Materials and Polymers for Aerospace and Defense Applications (SAMAPADA), Dec 8-12, 2008, Pune (**Organizing member**)
9. **Co-Convener of NANOCON2010**, Int.Conf. on Nanotechnology organized by Bharti Vidyapeeth Deemed Univ and C-MET, Oct. 14-15, 2010
10. **Organizing Secretary, ISME**, International symposium of materials Education, organized by IISER, NCL C-MET, and DIAT, Pune, March 26-27, 2011
11. **Chairman, IYC-2011 Celebration, DIAT, Pune 7 Dec. 2011**
12. **Chairman, Int. Conf. on Functional Materials for Defence, (ICFMD-2012) May 18-20, 2012**
13. **National Conf. on Chemistry of Chalcogenes (NC3-2013), 14-15, Jan 2013, Pune, India**
14. **Chairman, RSC (UK) supported i-CNT-2013, DIAT, Pune Oct 29-30, 2013**
15. **National Conf. on Chemistry of Chalcogenes (NC3-2013), 12-13, Jan 2015, Pune, India**

Manpower development:

Technical Staff and Scientists Supervised and Trained :

10 permanent staff

Postdoctoral fellow appointed and supervised:

04

DST Young Scientists appointed:

02

Project staff:

10

Projects Undertaken:

- 1 A two-year project funded by ARMREB, DRDO-to be implemented from APRIL 16-Ignitor delay material
- 2 A two-year project funded by DST- Ongoing (May 2015-17)- QDs-Graphene composites
- 3 A two-year project funded by DIAT, DRDO-completed (Oct. 2013-15)- Nanoink
- 4 A three year project has been sanctioned by DST completed (June 2012-15)- MSNCs & QDs
- 5 A two-year project funded by DRDO-completed (June 2012-15)- MO/Poly. Nanocomposite
- 6 A three project has been funded by DST completed
- 7 A two year project funded by MNES completed
- 8 A three project funded by DST completed
- 9 A three year project funded by DIT completed
- 10 A three year project by DST Young Scientist completed
- 11 A one year project funded by DST completed
- 12 A one year project funded by ISRO completed
- 13 Process development of Semiconductor Grade Sulfuric Acid (DoE) completed
- 14 Process development of Semiconductor Grade Methanol (DoE) completed
- 15 Process development of Submicron size Silver Powder (internal-DoE) completed
- 16 Development of MOCVD precursors (DoE)-completed

Instrument exposed to/handled:

Absorption spectroscopy i.e. UV-Visible and IR (far-mid-near), Multinuclear solution NMR, Powder X-ray diffractometer, Scanning electron microscopy/Energy dispersive spectroscopy (SEM/EDAX), Transmission electron microscopy (TEM), Photoluminescence (fluorescence) spectroscopy, X-ray photoelectron spectroscopy, Particle size analyzer and Thermal analysis .

Students Supervised:

>25

A. Informal:

1. One M.Sc. at IIT Bombay
2. One Ph.D. and Two B.Sc. in Swansea, UK during post-doc
3. One Ph.D. at IIT Bombay at post-doc

B. Formal at C-MET

4. Two B.E. (Chemical)-2000
5. One M.Sc. (Instrument)-2001
6. One M.Sc. (Physics)-2001
7. Four B.E. (Electrical)-2002
8. Two M.Sc.(Physics)-2003
9. Two M.Sc (Physics) 2004
10. Two M.Sc.(Physics) 2005

11. Three M.Sc.(Chemistry) 2005
12. Two M.Sc.(Chemistry) 2006
13. Two M.Sc.(Chemistry) 2007
14. One M.Sc.(Environ. Sc) 2007
15. One B.E. (Chemical)-2008
16. Two M.Sc.(Chemistry) 2008
17. One BTech.(Electronics) 2008
18. Three M.Sc. (Chemistry) 2009
19. Two MSc (Chemistry) 2010
20. **PhD students: 8 (persuing)**
21. BTech.Project-03 ; 2011-12
22. MTech.2012-15:07

REFERENCES

Name and Designation	Address
1. Prof. C.P.Morley, Director of Teaching	School of Chemistry, Main Building, Cardiff University, Cardiff,CF103AT,UK; Tel +44 (0)29 20874023 Fax +44 (0)29 20874030, Email: morleycp@Cardiff.ac.uk
2. Prof. D.J.Cole-Hamilton, Irvine Professor of Chemistry	School of Chemistry,University of St. Andrews, Fife, St. Andrews, Scotland, UK ; WWW: http://ch-www.st-and.ac.uk/staff/djc/ Tel: +44-1334-463805; Email: djc@st-and.ac.uk
4. Vice-chancellor, DIAT	DIAT, DRDO, PUNE vc@diat.ac.in

Highlights of Past and Present Research and Current Interests

Ph.D at IIT Bombay, India (1984-89/90)

Extensively worked on organo-tellurium compounds with a view to discover novel organo-tellurium compounds such as ditellurides and tellurides by exclusive use of alkalimetal tellurides as source of Te-insertion. The aim of the research was to discover semi-conducting materials or organic metals. Various organic compounds were synthesized that were used as the starting reagents. The reactions were carried out under the inert atmosphere of argon or nitrogen and the use of Schlenk type apparatus were the key to this research. In the process, 1,2-ditelluran was discovered by me. Several alkyltelluro-bromo species were synthesized by novel methods. The charge-transfer was observed in some of the compounds suggesting their potential to be semi-conducting in nature. The acceptor molecules were normally organic in nature such as TCNQ, DDQ and TCNE. The absorption spectroscopy was used to understand the charge-transfer. The organic tellurium compounds were also tested for their ability to donate lone pair of electron to sigma acceptors such as transition metals. A series of palladium complexes were prepared and studied. Five research papers were published in Journal of high repute.

Post-doctoral at Belfast and Swansea, UK (1989-92)

Research on chemistry of 1,2,3-selenadiazole and its coordination complexes with organo-transition metal compounds in order to prepare novel one-dimensional semi-conducting or conducting materials. The square planer metal complexes of 1,2-diselenenolene ligands were expected to behave superior than corresponding dithiolene complexes. The project involved extensive use of inert atmosphere synthetic methodologies as well as characterization tools such as proton, phosphorus and carbon NMR, FTIR, UV-Visible spectroscopy and microanalysis. The results were published in international journals of repute as evident in CV.

Private Sector R&D, Bombay, India (1993)

Hydrosilation: The functional chlorosilanes were hydrosilated by use of chloroplatinic acid in order to prepare gamma-chlorotrichlorosilane that can further be used for preparation of various silicones for textile and leather industry. The process was developed at laboratory level.

Post-doctoral at IIT Bombay, India (1994-95)

Research on Transition metal complexes of diimine ligands in order to synthesize useful metal complexes for their fluorescent properties as well to see if some of these can show non-linear optical properties. A Ph.D. student was supervised.

R&D of Electronic Materials at C-MET, Pune, India (1995-to-date)

The development of processes for high purity organic solvents and mineral acids lead to a couple of patents. Current interests include research on development of chemicals for electronics and research on nano-particles of semiconductors and transition & noble metals. Various industry collaborated and core grant projects have been completed. The development of silicon-phosphorus paste has been carried out for its use in solar cells. The grant-in-aid projects from various ministries are currently on-going.

Research on Quantum Dots of CdS and its composite with polymer at Univ. of St. Andrews, Scotland (1998-99)

During one year research training at with Prof. D. J. Cole-Hamilton at St. Andrews, the research was mainly focused on synthesis of quantum dots of cadmium sulphide to trap the possible blue light emission for various commercial applications. The CdS quantum dots were generated in polymer solution and it was possible to observe blue light emission that later turned orange. This offered a great possibility for this material to be able to show tuned emissions. The emission can be tuned for a variety of colors such as blue, green, orange and red. The composite was however, not stable for a longer period. The more studies are currently undertaken by my post-doctoral researcher. An air stable blue and orange light emitting composites have been prepared.

Research on QDs of InP & PbSe, Korea Res. Inst.Chem.Tech., S.Korea (2003 & 2004)

The work on colloidal synthesis of organically capped Indium Phosphide and lead selenide quantum dots was carried out. The organometallic precursors used for the synthesis were prepared and the new methods were adopted to suite the latest techniques for such high-tech materials. The use of single source precursors and its thermolysis to generate InP was main task. Also the direct use of phosphine gas with Indium metal salt was carried out in order to synthesize InP nano particles. A New method for preparation of indium phosphide and lead selenides was established. Size typically below 5 nm. Discovered the catalytic P-C bond cleavage in TOP for synthesis of InP. The work has been cited in many researchers articles published by the ACS Journals.

Research and projects on Nanoscience at C-MET, Pune (1995-2011)

Under the department of Information Technology, Govt. of India, three successive five-year research programmes on **MOS and MOCVD chemicals, Quantum dots-polymer composite and development of quantum dots for opto-electronics and electronics** were initiated and completed. Several projects sponsored by the govt. agencies including the most latest on **quantum dots (driven from the Organometallic Chemistry)** was handled by the applicant as principle investigator. The total outlay for such programmes normally ranged from INR 100-200 Lakh (~200-400,000 US\$). The programme were aimed at developing nano-technology of semi-conducting materials that show light emitting properties due to tuned band-gap energies. The range of colours from the visible spectrum is targeted to be achieved by means of size quantization of II-VI, IV-VI and III-V semiconductors by chemical methods *via* use of inorganic and organometallic chemistry. To boost the research activities in this area the several government funding agencies had extended the financial support for the work. About US\$ 200,000.00 grant-in-aid was generated by me during my association with C-MET, Pune.

During my being at C-MET, I have also undertaken 03 foreign visits to exclusively conduct research on quantum dots by use of organometallic and inorganic chemistry which later formed a strong basis for research in quantum dots at C-MET. My work at C-MET resulted in a process for laboratory scale (pilot scale) quantum dots of metal selenide, Light emitting quantum

dots, trapping of magic-number clusters, nano-silver, copper, nickel and others for a variety of applications. Other significant contribution has been the appointment of young scientists supported by DST and research associates/post docs (RA-I) on regular basis for the research activities. Such post-doc appointments. Like-wise, I have significantly contributed in the growth process of my previous organization by organizing a few international conferences. I have been supported by DST, MNES, DIT for my research through grant-in-aid projects for a duration ranging from 2-5 years. I have successfully completed 07 projects on the subject sponsored by DST, ISRO, MNRE and DIT. I had created a well equipped laboratory to do organometallic/inorganic and nano-chemistry in the area covering about 2000 sq.ft. at C-MET, Pune.

Current interest at DIAT

Over the years I have done a great deal of inorganic chemistry that has been extensively applied for research and development in Nano-chemistry via synthetic chemistry and materials chemistry which is supported by a large number of international publications. I have designed programme on nano-science and nano-technology keeping, Chemistry as a main focus. Since I have background in organometallic chemistry, my research interests are revolving around the synthesis of various nano-particles by implying organometallic chemistry routes and solution reaction mechanism. In addition to it, direct inorganic coordination chemistry based methodology is also being applied in my programme. Due to this creative initiative taken by me, the department of chemistry at DIAT, in now having almost all programmes revolving around applied chemistry leading to nanomaterials and polymer composites for their application in defence sector. Most of my research will normally be supported by PhD, MTech students and project assistants as well as MSc students of local colleges and of Pune University. Currently I am supervising 3 PhD students and 3 BTEch students in the area of defence related topics.

I am mainly active in the following areas;

- 1 FUNCTIONAL MATERIALS via synthesis of new organometallic compounds of selenium and tellurium by organometallic and inorganic chemistry including surface science, chemistry of surfactants, organic-inorganic hybrid systems for energy applications and defence requirement
- 2 NANOSCIENCE, Nanochemistry and Material science including nano-composites and their assorted alloy compositions etc. for synthesis of quantum dots, metal and metal oxide nano-particles and NPs/polymer composites for sensor, solar cell and LED.

PROJECT HANDLED AT C-MET, PUNE

Title of the project	Sponsoring agency	Outlay, manpower and duration	Proposed outcome from the project
A. CORE PROJECTS*			
VIII TH FIVE YEAR PLAN of the Govt. of India Development of MOS grade chemicals	DIT/CMET	1992-1997 as per the EFC documents ~Rs. 100.00 lakh	Development of MOS grade chemicals-high purity organic solvents with only ppb level trace metal impurities for their application in semiconductor devices cleaning and etching
IX TH FIVE YEAR PLAN of the Govt. of India Processes for MOCVD chemicals.	DIT/CMET	1997-2002 ~Rs. 100.00 lakh as per the EFC documents	The organo-cadmium and tellurium precursors for semiconductor devices-various reaction using advanced organometallic chemistry for synthesis of air and light sensitive compounds
X TH FIVE YEAR PLAN of the Govt. of India Quantum dots-polymer composite for display devices	DIT/CMET	2002-2007 ~Rs. 60.00 lakh as per the EFC documents	Light emitting QDs of II-VI semiconductors embedded in polymer and thin films via spin coating method. Study of optical properties and tuned band gap energy
XI TH FIVE YEAR PLAN of the Govt. of India Development of quantum dots	DIT/CMET	2007-2012 ~Rs.157. 00 lakh as per the EFC	Development of Q-dots for electronics and optoelectronics-the synthesis of surface capped semiconductor nano-particles of group II-VI, IV-VI, III-V and their composites with polymer for their application in photonics
B. SPONSORED PROJECTS			
Development of CdS nano-powder for solar cell applications	ISRO	2001-2002, Rs. 2.00 Lakh One project staff August (200,000 INR)	Nano-particles of CdS prepared/synthesized by organometallic chemistry to generate high surface area and better optical properties
Light emission from quantum dots of CdS	DST	2002-2003, Rs. 2.50 Lakh One project staff August (250,000 INR)	Organometallic synthesis of quantum dots that can generate light upon irradiation of UV source and thus proposing applications in display devices
Development of phosphorus – paste (an organo-phosphorus formulation) for solar cell applications	MNES	April 2003-2005 Rs. 11.00 Lakh One RA-I (11,00,000 INR)	Synthesis of organo-silicon network and incorporation of phosphorus via functionalization of siloxane network
Light emission from Q-dots of CdS: synthesis, characterization and thin film preparation	DST	August 2003-2006 Rs. 10.00 Lakh One RA-I (10,00,000 INR)	Organometallic synthesis of quantum dots for applications in display devices

Synthesis of noble metal nano-particle for electronics application	DIT, MCIT	April 2004-Sept 2009 Rs. 51.30 lakh Two research staff (51,30,000 INR)	Organometallic chemistry for synthesis of metal nano-particles via reduction of higher oxidation state to zero-valency through controlled use of surfactants
Studies on surface capped semiconductor quantum dots	DST	July 2007- July 2010 Rs. 18.00 Lakh One RA-III (18,00,000 INR)	Organometallic/Inorganic synthesis of CdSe and other chalcogenides for use in opto-electronics via tuning of their optical properties.
Synthesis of metal phosphides for electronic application	DST Young Scientist Scheme	October 2005-June 2007 Rs. 12.00 Lakh Awardee himself was staff (12,00,000 INR)	Organometallic chemistry for synthesis of metal phosphide nano-particles via cleavage of P-C bonds in organo-phosphorus compounds

DIT; Dept. of IT, DST; Dept. of Sc. &Tech., ISRO; Indian Space research organization, MCIT; Ministry of Commun. & IT, MNES; Ministry of Non-Conventional Energy Sources.

***The core budget at C-MET was handled by CAs and it was subject to change time to time**

List of PUBLICATIONS

A. RESEARCH PAPERS PUBLISHED IN THE FIELD OF NANO-SCIENCE/NANO-CHEMISTRY

BOOK CHAPTER: (02)

- 1. Studies on gas sensing performance of bulk and nano-Ag doped ZnO thick film resistors**, M.K. Deore, V.B. Gaikwad, D.D. Kajale, N.K.Pawar, D.N. Chavan, S.D. Shinde, **P.K. Khanna**, G.H. Jain, SPRINGER BOOK SERIES, Volume 49, Doi; 10.1007/978-3-642-00578-7, Recent Advances in Sensing Technology, Lecture notes in Electrical Engineering, ISSN; 1876-1100 (Print) 1876-1119 (Online) Springer Berlin Heidelberg.
- 2. Ultrasonic processing for synthesis of nanocomposite via in-situ emulsion polymerization and their applications**, Shirish H. Sonawane, Bharat A Bhanvase, Ravindra.D.Kulkarni, **Pawan K Khanna**, Pan Stanford Publishing, Singapore, a leading publisher in Nano related books. The title of the proposed book is, **Cavitation: A Novel Energy Efficient Technique for the Generation of Nanomaterials**, the Editors-Sivakumar Manickam and Muthupandian Ashokkumar PP 301-333, **2014** Pan Stanford Publishing (Chapter No. 10).

Under preparation

- 3. Novel Zn and Cd complexes of cycloalkeno semicarbazone and their utility as precursors to respective metal chalcogenide QDs**, Aditi Jadhav, Vaishali, Dhanve, Poonam Kolaskar and PK Khanna (**under preparation**)
- 4. Applications of Nano Fluid in Photocatalysis for dye degradation**, Ujjawal Bhagat, Anuraj Kshirsagar and PK Khanna(**under preparation**)
- 5. Novel Copper (II) Complexes of Semicarbazones: Synthesis, Electrochemical and Antibacterial Study**, Vaishali P. Dhanwe, Anuraj S. Kshirsagar, Vividha V. Dhapte, Vishwas Dhapte, **P.K. Khanna**, (**Under preparation**).

IN 2016 (6)

- 1. Novel Solventless Synthesis of 5-Phenyl-4-methyl-, 4-Phenyl-5-propyl- and Series of Related 1, 2, 3-selenadiazoles and their Antimicrobial Studies**. Aditi A. Jadhav, Vaishali P. Dhanwe, Prasad G. Joshi, **Pawan K. Khanna**, **Cogent Chemistry**, T&F, (**in press**) **2016**.
- 2. Cytotoxicity Studies of II-VI Semiconductor Quantum Dots on various cancer cell lines**, Sreenu Bhanoth, Aakriti Tyagi, Anita K. Verma and Pawan K. Khanna, **Adv. Mater Lett., VBRI PRESS (in press) 2016**
- 3. Colloidal Silver Nanoparticles Based Antimicrobial Cotton Fibres**, Pawan K Khanna, Pranali Hunnargikar, Prasad G Joshi, Anuraj Kshirsagar (**submitted** to ANN-ASIA) 2016
- 4. Effective Silver Nano-ink for Printable Electronics and Pen-on-Paper-Writing**, Neha Singh, Priyesh V. More, Jyoti Srivastava and **Pawan K. Khanna**, **Adv. Mater Lett., VBRI PRESS (in press) 2016**
- 5. Rapid Homogenization Method for Synthesis of Core/Shell ZnO/CdS Nanoparticles and their Photocatalytic Evaluation**, Suraksha Rasal, Priyesh V. More, Chaitanya Hiragond, Sunita Jadhav and Pawan K. Khanna **Adv. Mater Lett., VBRI PRESS (in press) 2016**
- 6. Biototoxicity of CdS/CdSe Core-Shell nano-structures**, Sreenu Bhanoth, Anuraj S. Kshirsagar, **P. K. Khanna**, Akruti Tyagi, Anita K. Verma, **Adv Nanoparticles, (accepted & IN PRESS, August 2015)**.
- 7. Synthesis of Optically active TiO₂/Polymer Blend Nanocomposites for prevention of food degradation**, Rahul Biswas, Aashish Gautam, P.G. Joshi, P.K. Khanna, **Journal of Biomimetics, Biomaterials and Biomedical Engineering (IN PRESS)** November/December 2015 ISSN: 2296-9845

IN 2015 (13)

8. Photodegradation of organic dyes based on anatase and rutile TiO₂ nano-particles, Ashish Gautam, Rahul Biswas, Anuraj Kshirsagar, S. Banerjee, Pawan K Khanna, *RSC Advances*, 2746-2759, 6, **2015**.
9. Plasmon Mediated Photocatalysis by Solar Active Ag/ZnO Nanostructures: Degradation of Organic Pollutants in Aqueous Conditions. Aby H, Kshirsagar A, **Khanna PK, J Mater Sci Nanotechnol** 302, **3(3)**, 2015.
10. *In-Situ* SeO₂ Promoted Synthesis of CdSe/PPy and Se/PPy Nanocomposites and their Utility in Optical Sensing for Detection of Hg²⁺ Ions, **Pawan K. Khanna**, Sreenu Bhanoth, Vaishali Dhanwe, Anuraj Kshirsagar and Priyesh More *RSC Adv.*, 92818–92828, **5**, 2015.
11. Graphene Titanium dioxide nanocomposite (GTNC): One Pot Green Synthesis and Its Application in Solid Rocket Propellant, Abhijit Dey, Vinit Nangare, Priyesh V. More, Md Abdul Shafeeuulla Khan, **Pawan K. Khanna**, Arun Kanti Sikder and Santanu Chattopadhyay, *RSC Adv.*, 63777-63785, **5**, 2015.
12. Polymer based graphene/titanium dioxide nanocomposite (GTNC): an emerging and efficient thermoelectric material Abhijit Dey, Sayali Hadavale, Md Abdul Shafeeuulla Khan, Priyesh More, Pawan K. Khanna, Arun Kanti Sikder and Santanu Chattopadhyay, *Dalton Trans.*, 2015, DOI: 10.1039/C5DT02877A
13. Studies on Rheological Behavior of Composite Propellant Slurry on Sequential Incorporation of Ingredients to Predict Qualitative Mixing Pattern, Mukesh Jain, Darshana Singh, Mehilal, K. Balasubramanian, Praveen Prakash Singh, and **P. K. Khanna**, *Advanced Science, Engineering and Medicine*, 1–6, **Vol. 7, 2015**.
14. Rapid Microwave Synthesis of White Light Emitting Magic Sized Nano Clusters of CdSe: Role of Oleic Acid, Aditi Jadhav, PV More, **Pawan K. Khanna** *RSC Advances*, 76733-76742, **5**, 2015.
15. Impact of Microwave Irradiation on Cyclo-octeno-1, 2, 3-selenadiazole: Formation of Selenium Nanoparticles and its Polymorphs, Aditi Jadhav, **Pawan K. Khanna** *RSC Advances*, 44756-44763, **5**, 2015.
16. Fabrication of Transparent ZnO/Polycarbonate Nano-composite Thin Films and Their Suitability for Food Packaging". N. Gaikwad, Vividha Dhapte, S. Kadam, S. Banerjee, PV More, V. Dhapte and **Pawan K. Khanna**, *Polymer Composites*, **1(2)**, **106-112**, **2015**.
17. Modification of optical, structural and dielectric properties of MeV ions irradiated PS/Cu nanocomposites, Chaitali Gavade, N. L. Singh, **P. K. Khanna**, Sunil Shah, *J. Nanoscience & Nanotechnology*, 9726-9731, **15**, 2015.
18. An Efficient Solventless Method for Synthesis of Cycloalkeno-1, 2, 3-selenadiazoles and Their Antimicrobial Activity Against Various Human Pathogenic Bacteria, Aditi Jadhav, Vaishali Dhanwe, Prasad Joshi, **Pawan K. Khanna**, *J Heterocyclic Chem, J Heterocyclic Chemistry*, 102, **51**, 2015(Springer).
19. Study of Zinc Oxide Nanofluids for Heat Transfer Application, Ujjwal Kumar Bhagat, Priyesh V More and **Pawan K Khanna**, Scholarena, SAJ Nanosci. Nanotech. 101, 1(1), 2015.
20. Modification of optical, structural and dielectric properties of MeV ions irradiated PS/Cu nanocomposites, Chaitali Gavade, N. L. Singh, **P. K. Khanna**, Sunil Shah, *J. Nanoscience & Nanotechnology*, 9726-9731, **15**, 2015

IN 2014(04)

21. Core-shell ZnSe-CdSe quantum dots: a facile approach via decomposition of cyclohexeno-1,2,3-selenadiazole, S. Bhanoth, Priyesh V. More, Aditi Jadhav and **Pawan K. Khanna**, *RSC Advances*, 17526-17532, **4 (34)**, 2014.
22. Chemically Designed Pt/PPy Nano-composite for Effective LPG Gas Sensor, N. Gaikwad, S. Bhanoth, P. More and **Pawan K Khanna**, *Nanoscale*, 2746-2751, **6 (5)**, **2014**.
23. Versatile SiO₂ Nanoparticles@Polymer Composites with Pragmatic Properties, Vividha V. Dhapte, S. Kadam, V. Pokhaker, V. Dhapte and **Pawan K. Khanna**, *ISRN Inorganic Chemistry*, pages 1-8, volume **2014**, 2014. <http://dx.doi.org/10.1155/2014/170919>. Article ID 170919.
24. Optical and dielectric properties of ion beam irradiated Ag/PMMA nanocomposites, C. Gavade, N. L. Singh, **P. K. Khanna**, *J. Nanoscience & Nanotechnology* 1-6, **14**, 2014.

IN 2013(03)

25. Swift heavy ion induced modification in physical properties of polymethylmethacrylate (PMMA)/Nickel (Ni) Nanocomposites. N.L.Singh, Chaitali Gavade, and **P.K. Khanna**, *Defect and Diffusion Forum*, 51-68, **341**, 2013. *Trans Tech Publication*, Switzerland ISSN. 1662-9507.
26. Effect of ballistic modifiers on the burn rate of extruded composite propellant formulations based on thermoplastic elastomeric binder, K. S. Mulage, A. K. Mishra, R. N. Patkar, S. H. Kharat, P. K. Khanna, & S. D. Kakade, *Int. Journal of Energetic Materials and Chemical Propulsion*, 375-388, **11 (4)**, 2013.
27. Effect of swift heavy ion irradiation on copper/polymethyl methacrylate nanocomposites, Chaitali Gavade, Sangeeta Kishore, N. L. Singh, P. K. Khanna, *Radiation Effects and Defects in Solids*, DOI:10.1080/10420150.2012.763037, ISSN.1042-0150, 504-511, **168 (7-8)**, 2013.

IN 2012 (09)

28. Mild Synthesis of Fe₂O₃/CdS Nanoparticles and Their Magnetic and Luminescence Studies, **PK Khanna**, K Dhanabalan, K Gurunathan, N. Reji, S Viswanathan, V Renugopalakrishnan, *Int. Journal of Green Nanotechnology*, 457-462, **4**, 2012.,

29. Synthesis, Characterization and studies of PVA/Co-doped ZnO nanocomposite films, Deepak Kumar, Suraj Karan Jat, **Pawan K. Khanna**, N.Vijayan and Shaibal Banerjee, **International Journal of Green Nanotechnology**, 467-4673, 4, 2012.
30. One-pot synthesis of cobalt selenide nano-particles, **P. K. Khanna**, V.V. Dhapte, **International Journal of Green Nanotechnology**, 4, 2012. 463-466.
31. Silver nanoparticle mediated enhancement in growth of *Brassica juncea* seedlings is triggered through modulation of antioxidant status, Priyadarshini, Deepesh Bhatt, M.G.H. Zaidi, P.P. Saradhi, **P.K. Khanna** & Sandeep Arora, **Applied Biochemistry and Biotechnology**, DOI 10.1007/s12010-012-9759-8, 2225-33, **167(8)** 2012.
32. Biocompatible hydrophilic CdSe Quantum Dots: Single-step synthesis, **P. K. Khanna**, K. Dhanabalan, Priyesh More, Sowmya Viswanathan and V. Renugopalkrishnan, **International J Green Nanotechnology** 1-9, **4**, 2012
33. Gold-Nanoparticle Induced Enhancement in Growth and Seed Yield of *Brassica juncea*, Sandeep Arora, Priyadarshini Sharma, Sumit Kumar, Rajeev Nayan, **P.K. Khanna** and MGH Zaidi, **Plant Growth Regulation**, 303-10, **66**, 2012
34. Studies on Copper-Yttria Nano-Composites : High Energy ball milling Vs chemical reduction method, P. B. Joshi, Bharati Rehani, Palak Naik, Swati Patel and **P. K.Khanna**, **J. Nanoscience & Nanotechnology**, **2591-97**, **12(3)**, 2012
35. Sono-chemical Synthesis of ZnO Nano-particle and its Application in Hydrogen Sulphide Gas Sensing, **P.K.Khanna**, Kunal Kate, K. Dhanabalan, Shaibal Banerjee, N.Reji, S. D. Shinde and G. H. Jain **J. Nanoscience and Nanotechnology**, **2791-96**,**12(3)**, 2012
36. Gas Sensing Properties of Nanocrystalline Indium Oxide Synthesized by Sol-Gel Method S. C. Kulkarni, C. S. Aher, R. Y. Borse, B. G. Bharate, Salem S. Al-Deyab, S. G. Ansari, and **P. K. Khanna**, **Adv. Sci. Lett.** 109-113, **5**, 2012

IN 2011 (13)

37. Sonochemical Formation of CaCO₃ Nanoparticles with Controlled Particle Size Distribution S. H. Sonawane, C. V. Kapadnis, Satish Meshram, S. P. Gumfekar and **P. K. Khanna**, **International J Green Nanotechnology (Chemistry and Physics)**, **P69-P79**, **2(2)**, 2010 : DOI:10.1080/19430876.2010.532451
38. Non-TOP and non-injection Green synthesis of zinc blend CdSe quantum dots Using cyclohexeno-1,2,3-selenadiazole, R.K.Beri, **P.K.Khanna**, **Advanced Science Letters (ASP)** 3543-3550, **4**, 2011.
39. Effect of SHI irradiation on dielectric spectroscopy and thermal properties of silver nanoparticle embedded polystyrene matrix, Chaitali Gavade, N.L.Singh, Anita Sharma, **P.K.Khanna**, Fouran Singh, **Radiation effects and defects in solids (Taylor & Francis)**, 585-591, **166 (8-9)** 2011.
40. Nano Ag-Doped In₂O₃ Thick Film: A Low-Temperature H₂S Gas Sensor, D. N. Chavan, G. E. Patil, D. D. Kajale, V. B. Gaikwad, P. K. Khanna, and G. H. Jain, **Journal of Sensors**, Volume 2011 (2011) 1-8(8 pages), Article ID 824215, doi:10.1155/2011/824215
41. Nano-silver mediated polymerization of pyrrole: Synthesis and gas sensing properties of polypyrrole(PPy)/Ag Nano-composite, Kunal H. Kate, S. R. Damkale, **P. K. Khanna**, and G. H. Jain, **J. Nanoscience & Nanotechnology**, 7863-7869,**11(9)**, 2011.
42. Glycerol Mediated Low Temperature Synthesis of Nickel Nanoparticles by Solution Reduction Method. K. Singh, K. Kate, **P.K. Khanna** and CVVV Satyanarayana, **J. Nanoscience & Nanotechnology**, 5131-6, **11(6)**, 2011
43. Morphological and Humidity Sensing Characteristics of SnO₂-CuO, SnO₂-Fe₂O₃ and SnO₂-SbO₂ nano-co-oxides, B.C.Yadav, **P.K.Khanna**, **Bulletin of Materials Science, (Springer)**, 689-98, **34 (4)** 2011.
44. Synthesis of nanosilver using a vitamin C derivative and studies on radiation protection, Dhanya K Chandrasekharan, **Pawan K Khanna**, Tsutomu V Kagiya, Cherupally Krishnan Krishnan Nair, **Cancer biotherapy & radiopharmaceuticals.**; 249-57, **26(2)** 2011.
45. Cellular radioprotecting potential of glycyrrhizic acid, silver nanoparticle and their complex, Dhanya K Chandrasekharan, **Pawan K Khanna**, Cherupally Krishnan Krishnan Nair, **Mutation research**. 51-57, **723(1)** 2011.
46. Microwave formation of polypyrrole/Ag nano-composite based on interfacial polymerization by use of AgNO₃, Kunal H. Kate, Kalpana Singh and **Pawan K. Khanna**, **J. Synth. React. in Inorganic, Metal-Organic and Nano-Metal Chemistry (Taylor and Francis,USA)**- , 199-202, **41(2)**, 2011 (ISSN:1553-3174)
47. "Yellow Emitting" Magic-size Cadmium Selenide Nanocrystals via a Simplified Spray Pyrolysis Method R.K.Beri, **P.K.Khanna**, V.N. Singh, B. R. Mehta, **Current Applied Physics**, 809-811, **11(3)** 2011.
48. Green synthesis of cadmium selenide nanocrystals: the scope of 1,2,3-selendiazoles in the synthesis of magic-size nanocrystals and quantum dots, R. K. Beri, **P. K. Khanna**, **J. Nanoscience & Nanotechnology**, doi:10.1166/jnn.2011.4143 (ISSN1533-4880) 5137-42, **11(6)** 2011.
49. Silver nanoparticles embedded polymer sorbent for preconcentration of uranium from bio-aggressive aqueous media, Sadananda Das, Ashok K. Pandey, Vijay K. Manchanda, Anjali A. Athawale and **Pawan K. Khanna**, **Journal of Hazardous Materials**, 2051–2059, **186**, 2011.

IN 2010 (07)

50. Controlled and green synthesis of single family magic-sized CdSe nanocrystals, R.K.Beri, **P.K.Khanna**, **Cryst. Engg. Commn. (Royal Society of Chemistry, UK)**, 2762-2768, **12**, 2010; DOI: 10.1039/b927290a

51. Band-gap Engineering of ZnSe Quantum Dots via a non-TOP Green Synthesis by Use of Organometallic Selenium Compound R.K.Beri, P. More, BG Bharate and **P. K. Khanna**, **Current Applied Physics**, 553-556, **10(2)**, 2010
52. One-pot synthesis of oleic acid capped CdSe (E=Se/Te), **P. K. Khanna**, K. S. Rao, K. R. Patil, B. R. Mehta, V. N. Singh, **J. Nanoparticle Res.**, 101-109, **12(1)**, 2010, DOI 10.1007/s11051-008-9581-y; ISSN: 1388-0764 (Print) 1572-896X (Online)
53. **Green synthesis of ZnSe quantum dots using in-situ synthesised sodium selenide**, Pawan K. Khanna, Jin-Ook Baeg, M. S. Lee, **Int. J Nanotechnology**, 1131-38, **7(9-12)** 2010
54. Synthesis and band-gap photoluminescence from cadmium phosphide nano-particles, **P. K. Khanna**, N. Singh, and Priyesh More, **Current Applied Physics**, 84-88,**10**, 2010; 10.1016/j.cap.2009.05.002; ISSN:1567-1739.
55. Alumina-supported iron oxide nanoparticles as Fischer–Tropsch catalysts: Effect of particle size of iron oxide, Jo-Yong Park, Yun-Jo Lee, Pawan K. Khanna, Ki-Won Jun, Jong Wook Bae, Young Ho Kim, **Journal of Molecular Catalysis A: Chemical**, 84–90, **323** (1–2) 2010.
56. Optical humidity sensor based on m-nitro aniline (m-NA) doped Au/PVA (Poly-vinyl alcohol) nano-composite, P.V. Adhyapak, A. Vijayan, R.C. Aiyer, **P.K. Khanna**, U.P. Mulik, D.P. Amalnerkar, **J Nanotechnology**, (**Springer**), 1054-1064, **7(9-12)** 2010
57. Fabrication of Silver–Graphite Contact Materials Using Silver Nanopowders, Bharati Rehani, P.B.Joshi' and **P.K.Khanna**, **Journal Mater. Engg. Performance** **19** (1), 64-69, 2010
IN 2009 (16)
58. Studies on Gas Sensing Performance of Pure and Surface, Modified SrTiO₃ Thick Film Resistors, V. B. Gaikwad, D. D. Kajale, Y. R. Baste, S. D. Shinde, **P. K. Khanna**, N. K. Pawar, D. N. Chavan, M. K. Deore, G. H. Jain, **Sensors & Transducers Journal**, *Spl. Issue* 57-68, **6**, 2009. ISSN 1726-5479
59. Combined Effect of Surfactant and Ultrasound on particle size of Calcium Carbonate synthesized by crystallization process, Shirish Sonawane, **P. K. Khanna**, Satish Meshram, C. Mahajan, Manik Deosarkar' Sarang Gumfekar, **Int. J Chemical Reactor Engineering**, 1-14,7, (**A-47**), **2009** BE Press.
60. Synthesis and Optical properties of anatase TiO₂ nano-particles in commercial PMMA: A green approach for wider acceptability?, Priyesh More, Ritesh Kumar, B.C. Yadav, **P.K.Khanna**, **Int. J. Green Nanotechnology: Materials Science & Engineering (Taylor&Francis)- M3–M10**, **1**, 2009: ISSN:1943-0833,;DOI:10.1080/19430840902931517
61. Light emitting CdSe QDs in commercial PMMA: synthesis and optical properties: **P.K.Khanna**, P. More, B.G. Bharate and A.K.Viswanath **J.Luminescence-** 18-23,**130**,2010. (ISSN: 0022-2313)
62. Effect of Organic Chromophore on humidity sensing properties of nanosized TiO₂, Jagdish Jawalkar, Priyesh More, Shubhangi R. Damkale, Ritesh Kumar, B. C. Yadav, A. K. Vishwanath and **P. K. Khanna**, **Int. J. Green Nanotechnology: Physics and Chemistry (Taylor&Francis)- P40-50**, **1**, 2009; ISSN: 1943-0876 PRINT/1943-0884 Online
63. Surfactant free large-scale synthesis of palladium and Ag/Pd nano-particles at ethanol/water refluxing temperature, **P. K. Khanna**, B. G. Bharate, Priyesh More and N. Koteswar Rao, V. N. Singh and B.R. Mehta **J. Synth. React. in Inorganic, Metal-Organic and Nano-Metal Chemistry (Taylor and Francis,USA)-** , 367-372, **39(7)**, 2009 (ISSN:1553-3174)
64. Synthesis and *in-vitro* antimycobacterial studies of cysteine capped silver nano-particles, Mithun V. Varghese, R. S. Dhumal, S. S. Patil, A. R. Paradkar, **P. K. Khanna**, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry (Taylor and Francis, USA)-39(9)**, 2009,554-58(ISSN: 1553-3174).
65. Reduction of Copper and Indium Chloride in aq. DMF: Formation of Copper Indium Sulphide (CIS), **P. K. Khanna**, Priyesh More, Yogesh Patil, Jagdish Jawalkar, Deepti Kulkarni, Amol Dhangar, **Synthesis and Reactivity in Inorg, Metal-Org., and Nano-Metal Chemistry, (Taylor&Francis, USA)** 221-224, **39(5)** 2009, (ISSN: 1553-3174)
66. Synthesis of CdSe Quantum Dots via Thermolysis of a Novel Single Cd/Se Precursor Derived from Cyclohexeno-1, 2,3-Selenadiazole, P. K. Khanna, Priyesh More, Rahul Shewate, R.K. Beri, A. K. Viswanath, V.N. Singh and B. R. Mehta, **Chemistry Letters**, 676-77, **38(7)**, 2009; doi: 10.1246/cl.2009.676
67. Slurry-phase Fischer-Tropsch synthesis using Co/ γ -Al₂O₃, Co/SiO₂ and Co/TiO₂: effect of support on catalyst aggregation, Jong-Hyeok Oh, Jong Wook Bae, Seon-Ju Park, **P. K. Khanna** and Ki-Won Jun, **Catalysis Letters**, 403-409, **130**, 2009.
68. Synthesis of Silver Nano-particles using Cod-liver oil (Fish oil): Green Approach to Nanotechnology, **P. K. Khanna** and C. K. K. Nair, **Int. J. Green Nanotechnology: Physics and Chemistry (Taylor and Francis)** P1-P7, **1**, 2009; ISSN: 1943-0876 print / 1943-0884 online; DOI: 10.1080/19430870902909759
69. Effect of reducing agent on the synthesis of nickel nanoparticles, **P. K. Khanna**, Priyesh V. More, Jagdish P. Jawalkar and B. G.Bharate, **Mater. Lett**, 1384-1386, **63**, 2009 (ISSN No. 0167-577X)
70. Solid state synthesis and room temperature magnetic properties of iron phosphide nano-particles, N. Singh and **P. K. Khanna**, **J. Nanoparticle Res.**, 491-497, **11**, 2009.
71. Synthesis and Antibacterial Studies of Chloramphenicol Loaded Nano-silver against *Salmonella typhi* Sharvil S. Patil, Ravindra S. Dhumal, Mithun V.Varghese, Anant R. Paradkar, **P.K. Khanna**, **Synth. and React. Inorganic, Metal-Organic, Nano-Metal Chemistry**, 65-72, **39(2)**, 2009 (ISSN: 1553-3174)
72. Synthesis of hydrophilic copper nanoparticles: effect of reaction temperature, P. K. Khanna, Priyesh More, Jagdish Jawalkar, Yogesh Patil, N. Koteswar Rao, **J. Nanoparticle Res**, 793–799, **11**, **2009**. ISSN; 1388-0764 (Print) 1572-896X (Online)

IN 2008 (06)

73. An innovative method for effective micro mixing of CO₂ gas during synthesis of nano calcite crystal using sonochemical carbonization, S.H. Sonawane, S.R. Shirsath, **P. K. Khanna**, S Pawar, C.M. Mahajan V. Paithankar, V. Shinde, C V. Kapadnis, **Chemical Engineering Journal**, 308-313, **143**, 2008, (ISSN: 1385-8947)
74. Synthesis and Optical Properties of CdSe Nano-crystals: Effective Use of Organoselenium Compound in Nanochemistry P. K. Khanna, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 409-13, **38(5)**, 2008.
75. Fabrication of selenium rods by solution method, Yogesh Patil and P K Khanna, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, **38(6)**, 518-23, 2008. (ISSN: 1553-3174)
76. Synthesis of oleic acid capped copper nanoparticles *via* reduction of copper salt by SFS, **P. K. Khanna**, Trupti S. Kale, Mushtaq Shaikh, N. Koteswar Rao and CVV Satyanarayana, **Mater. Chem. Phys.**, 21-25, **110**, 2008; (ISSN: 0254-0584)
77. Synthesis and characterization of myristic acid capped silver nano-particles, P.K.Khanna, D. Kulkarni, R. Beri, **J. Nanoparticle Research**, 1059-62, **10**, 2008
78. Reduction of PdCl₂ by Emeraldine Base; synthesis of palladium nano-particles, **P.K.Khanna**, D. Kulkarni, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 629-33, **38(7)**, 2008. (ISSN: 1553-3174)

IN 2007 (15)

79. Reduction of transition metal salts by SFS: Synthesis of copper and silver sulphides, **P.K.Khanna**, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 805-08, **37**, 2007 (ISSN: 1553-3174)
80. Light emitting CdS quantum dots in PMMA: Synthesis and optical studies, **P. K. Khanna**, N. Singh, **J. Luminescence**, (474-82, **174**, 2007. (ISSN: 0022-2313)
81. Synthesis of nano-sized PbSe from octeno-1, 2,3-selenadiazole, **P. K. Khanna**, N. Singh, S. Charan, A. K. Viswanath and K. R. Patil, **Materials Research Bulletin**, 1414-1421, **42**, 2007 (ISSN: 0025-5408)
82. CdS/polyaniline nano-composites: synthesis and characterization, N. Singh, M. V. Kulkarni, S. Lonkar, A. Kasi Viswanath, **P.K.Khanna**, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 153-159, **37**, 2007
83. One-step preparation of nano-sized Ag-Pd co-powder and its alloy formation at low temperature, P. K. Khanna, N. Singh, D. Kulkarni, R. Marimuthu, S. Charan, K.R.Patil, G. H. Jain, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 1-9, **37**, 2007(ISSN: 1553-3174)
84. *In situ* synthesis of silver nano-particles in polymethylmethacrylate, N. Singh, **P. K. Khanna**, **Mater. Chem Phys**, 367-372, **104(2/3)**, 2007(ISSN: 0254-0584)
85. Synthesis of nano-particles of anatase TiO₂ and preparation of its optically transparent film in PVA, **P. K. Khanna**, N. Singh and S. Charan, **Materials Letters**, 4725-4730, **61**, 2007(ISSN No. 0167-577X)
86. Synthesis and Characterization of copper nanoparticles, **P. K. Khanna**, S. Gaikwad, P.V. Adhyapak, N. Singh, R. Marimuthu, **Materials Letters**, 4711-4714, **61**, 2007(ISSN No. 0167-577X)
87. Nano-sized HgSe powder: single-step preparation and characterization, N. Singh, K. R. Patil **P. K. Khanna**, **Mater. Sc. Engg. B: (IF=1.5)** 31-36, **142**, 2007 (ISSN: 0921-5107)
88. Nearly Mono-disperse Quantum Dots of ZnSe: Synthesis and Characterization, K. Srinivas Rao, N. Singh, K. Gurunathan, R. Marimuthu, N. R. Munirathanam, T. L. Prakash, **P. K. Khanna**, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry** 1-3, **37(6)** 2007 (ISSN: 1553-3174)
89. TOP: An effective source of phosphorus for synthesis of nano-sized InP, Narendra Singh and **P. K. Khanna**, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry**, 367-371, **37(5)** 2007 (ISSN: 1553-3174)
90. Tuned light emission from nanoparticles of cadmium chalcogenides and Nanostructures in indium nitride, Ge Cheng, Pascal André, Andrea F, Firth, **P. K. Khanna**, Wuzong Zhou, Ifor D. W. Samuel and David J. Cole-Hamilton, **J. Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry** 309-313, **37(5)** 2007 (ISSN: 1553-3174)
91. Water based simple synthesis of re-dispersible silver nano-particles, **P. K. Khanna**, N. Singh, D. Kulkarni, S. Deshmukh, S.Charan, P.V. Adhyapak, **Materials Letters**, 3366-70, **61**, 2007 (ISSN No. 0167-577X)
92. Single mode wave guide properties of m-NA doped Au/PVA nano-composites: Synthesis, characterization and studies, P. V. Adhyapak, N. Singh, A. Vijayan, R. C. Aiyer, **P. K. Khanna**, **Materials Letters**, 3456-61, **61**, 2007. (ISSN No. 0167-577X)
93. Studies on chemically deposited CuInSe₂ thin films, R. H. Bari, L. A. Patil, P. S. Sonawane, M. D. Mahanubhav, V.R. Patil and **P.K. Khanna**, **Materials Letters**, 2058-2061, **61**, 2007.

IN 2006 (14)

94. Improved and efficient synthesis of bis(cycloocteno)-1,4-diselenin in high boiling solvents, **P.K. Khanna**, S. M. Vyas and N. Singh, **J. Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry**, 787-91, **36**, 2006.(ISSN: 1553-3174)

95. Direct synthesis of nano-crystalline silver from the reaction between silver carboxylates and n-trioctyl phosphine, S. Charan, N. Singh, **P. K. Khanna**, K. R. Patil, **J. Nanoscience and Nanotechnology**, 2095-2102, **6**, 2006(ISSN 1533-4880)
96. Unusual formation of nano-particles of CdO and Cd (OH)₂ from the reaction of dimethyl cadmium with DMF, N. Singh, S. Charan, K. R. Patil, A. K. Viswanath and **P. K. Khanna**, **Materials Letters**, 3492-3498, **60**, 2006(ISSN No. 0167-577X)
97. Tuned Optical Properties of *in-situ* synthesized m-NA doped Ag/PVA nano-composites, P. V. Adhyapak, **P. K. Khanna**, J. W. Dadge, R. C. Aiyer, **J. Nanoscience and Nanotechnology**, 2141-46, **6**, 2006 (ISSN 1533-4880)
98. One step synthesis of TOP capped PbSe pyramidal nano-crystals, **P.K. Khanna**, K-W Jun, Anisha Gokarna, Jin-Ook Baeg and Sang Il Seok, **Mater. Chem. Phys.**, 154, **96**, 2006
99. Synthesis of InP nano-crystals from indium chloride and sodium phosphide by solution route, Ki-Won Jun, **P. K. Khanna**, Ki-Bum Hong, Jin-Ook Baeg, Yung-Doug Suh, **Mater. Chem Phys.**, 494, **96**, 2006 (ISSN: 0254-0584)
100. The processing of CdSe/Polymer nano-composites *via* solution organometallic chemistry, N. Singh, **P. K. Khanna**, Y. Patil, S. Lonkar, A. S. Reddy, and A. K. Viswanath, **Mater. Chem Phys**, (IF=2.0) 288, **97**, 2006 (ISSN: 0254-0584)
101. Synthesis β-Ag₂Se from organo-selenium precursor and silver nitrate in DMF via simultaneous reduction of selenium and silver salt, P. K. Khanna, N. Singh, S. Charan, and K. R. Patil, **Materials Letters**, 2080, **87**, 2006(ISSN No. 0167-577X)
102. Synthesis of HCl doped polyaniline-CdS nano-composite by use of organometallic cadmium precursor, **P.K.Khanna**, M. V. Kulkarni, N. Singh, V.V.V. S. Subbarao, S. Lonkar and A. K. Viswanath, **Mater. Chem. Phys.**, 24, **95**, 2006
103. Synthesis and humidity sensing applications of conducting poly(N-methyl aniline) doped with different acids, M. V. Kulkarni A. K. Viswanath and **P. K. Khanna**, **Sensors and Actuators B Chemical**, 140, **115**(1), 2006 (ISSN: 0925-4005)
104. Synthesis and Characterization of poly(o-anisidine) doped with polymeric acids, M. V. Kulkarni A. Kasi Viswanath and **P. K. Khanna**, **Int. J. Polymeric materials**, 1-12, **55**, 2006 (ISSN (printed): 0091-4037.) (ISSN (electronic): 1563-535X)
105. Synthesis and Characterization of conducting polyaniline doped with polymeric acids, M. V. Kulkarni A. K. Viswanath and **P. K. Khanna**, **J. Macromolecular Science Part A, Pure and Applied Chemistry**, 759, **43**, 2006
106. Investigation of spectroscopic and thermal properties of poly(o-toluidine) doped with polymeric acids, M. V. Kulkarni A. Kasi Viswanath and **P. K. Khanna**, **J. Macromolecular Science Part A, Pure and Applied Chemistry**, 197, **43**, 2006
107. Synthesis and characterization of poly(N-methyl aniline) doped with sulphonic acids: Their Application as Humidity Sensor, M. V. Kulkarni, A. K. Viswanath, **P. K. Khanna**, **J. Appl. Poly. Sc.**, 812, **99**, 2006

IN 2005 (11)

108. Single step polymerization of poly(o-toluidine) doped with camphor sulphonic acid Synthesis and characterization, M. V. Kulkarni, A. Kasi Viswanath and **P. K. Khanna**, **J. Poly.Engg.** 487-98, **26**, 2005 (ISSN :0334-6447)
109. Synthesis, characterization, and morphology of *p*-toluene sulfonic acid-doped polyaniline: A material for humidity sensing application, M. V. Kulkarni, A. Kasi Viswanath, R. C. Aiyer, **P. K. Khanna**, **J Polymer Science Part B: Polym Phys**, 2161, **43**, 2005 (ISSN : 0449-2978)
110. Colloidal synthesis of octahedral shaped PbSe nanocrystals from lead oleate and Se: temperature effect, Anisha Gokarna, Ki-Won Jun, **P. K. Khanna**, Jin-Ook Baeg and Sang Il Seok, **Bulletin Korean Chemical Society**, (IF=1.3) 1803 **26**(11) 2005
111. Synthesis and optical properties of CdS/PVA nano-composites, **P.K.Khanna**, R.Gokhale and VVVS Subbarao, N. Singh, B.K.Das and Ki-Won Jun, **Mater. Chem. Phys.** 454, **94**, 2005(ISSN: 0254-0584)
112. Materials Chemistry of 1,2,3-selenadazole, **P.K.Khanna**, **Phosphorus, sulfur and silicon** and the related elements, 951, **180**, 2005(ISSN: 0254-0584)
113. Synthesis of fine PbE (E=S, Se) powder from direct *in-situ* reduction of sulphur or selenium **P. K. Khanna**, V. V. V. S. Subbarao, M. Wagh, P. Jadhav and K. R. Patil, **Mater. Chem Phys.** 91, **93**, 2005(ISSN: 0254-0584)
114. Colloidal synthesis of indium nanoparticles by sodium reduction method, **P.K.Khanna**, Ki-Won Jun, Ki Bum Hong, Jin-Ook Baeg and B.K.Das, **Materials Letters**, 1032-36, **59**, 2005(ISSN No. 0167-577X)
115. Synthesis of InP nanoparticles via catalytic cleavage of phosphorus carbon bond in n- trioctylphosphine (TOP) by indium, **P. K. Khanna**, K- W. Jun, K.B. Hong, J-O. Baeg, G.K. Mehrotra, **Mater. Chem. Phys.** 54, **92**, 2005(ISSN: 0254-0584)
116. PVA stabilized gold nanoparticles by use of unexplored albeit conventional reducing agent, **P. K. Khanna**, R. Gokhale, V. V. V. S. Subbarao, A. K. Viswanath, B.K.Das and C.V.V. Satyanarayana, **Mater. Chem Phys**, **229**, **92**, 2005 Synthesis of Ag/PAni nanocomposite via an *in situ* photo-redox mechanism **P. K. Khanna**, N. Singh, S. Charan, A. K.Viswanath, **Mater. Chem. Phys.**, **214**, **92**, 2005 (ISSN: 0254-0584)
117. Synthesis and characterization of Ag/PVA nanocomposite by chemical reduction method, **P. K. Khanna**, Narendra Singh, Shobhit Charan, V. V. V. S. Subbarao, R. Gokhale and U.P.Mulik, **Mater. Chem. Phys.**, 117, **93**, 2005 (ISSN: 0254-0584)
118. Colloidal synthesis of indium nano particles by sodium reduction method, **P.K. Khanna**, Ki-Won Jun, Ki Bum Hong, Jin-Ook Baeg and B.K.Das, **Materials Letters**, 1032-36, **59**, 2005 (ISSN No. 0167-577X)

IN 2004 (08)

119. Production and Luminescent Properties of CdSe and CdS nanoparticle-polymer composites, Andrea V. Firth, S. W. Haggata, **Pawan K. Khanna**, Stuart J. Williams, J. W. Allen, S. W. Magennis, Ifor D.W. Samuel, and D. J. Cole-Hamilton **J. Lumines.**, 163, **109**, 2004 (ISSN: 0022-2313)
120. Simple and effective synthesis of cadmium selenide in aq. DMF, **P.K.Khanna**, C.P.Morley, R.M.Gorte, R. Gokhale, VVVS Subbarao and C.V.V.Satyanarayana, **Mater. Chem. Phys.** 323, **83**, 2004 (ISSN: 0254-0584)
121. PVP coated nanosized silver powder, **P.K.Khanna**, R.Gokhale and VVVS Subbarao, **J. Mater. Science**, 3773, **39**(11), 2004 (ISSN: 0022-2461)
122. Synthesis of fine CdS powder from direct *in-situ* reduction of sulphur and cadmium salts in aq. DMF, **P.K.Khanna** and V.V.V.S.Subbarao, **Materials Letters**, 2801, **58** 2004 (ISSN No. 0167-577X)
123. Polyaniline–CdS nanocomposite from organometallic cadmium precursor, **P.K.Khanna**, S.Lonakar, V.V.V.S.Subbarao and Ki-Won Jun, **Mat. Chem. Phys.** 49, **87**, 2004 (ISSN: 0254-0584)
124. Novel synthesis of silver selenide from silver nitrate and organo-selenium compound, **P. K. Khanna** and B. K. Das, **Materials Letters**, 1030, **58**, 2004 (ISSN No. 0167-577X)
125. Microwave-accelerated hydrothermal synthesis of blue white phosphor: Sr₂CeO₄, Y.B. Kholam, S.B. Deshpande, **P.K. Khanna**, P.A. Joy, H.S. Potdar, **Materials Letters**. 2521, **58**, 2004 (ISSN No. 0167-577X)
126. Synthesis of cadmium selenide from Hepteno-1,2,3-selenadiazol and cadmium salts in Ethylene Glycol, **P. K. Khanna**, R. M. Gorte, and R.Gokhale, **Materials Letters**, 966, **58**, 2004 (ISSN No. 0167-577X)

IN 2003 (05)

127. Firing and processing effects on microstructure of fritted silver thick film electrode materials for solar cells, S.B.Rane, **P.K.Khanna**, T.Seth, G.J.Phatak, D.P.Amalnerkar and B.K.Das, **Mater. Chem. Phys.**, 237, **82**, 2003 (ISSN: 0254-0584)
128. Novel synthesis of indium phosphide nano particles, **P.K.Khanna**, M-S Eum, K-W Jun, Jin-Ook Baeg and Sang Il Seok, **Materials Letters**, 4617, **57**, 2003 (ISSN No. 0167-577X)
129. Synthesis of cadmium selenide by use of a selenadiazol in ethylene glycol-A greener source of selenium, **P. K. Khanna**, R. M. Gorte and C. P. Morley, **Materials Letters**, 1464, **57**, 2003 (ISSN No. 0167-577X)
130. Nanosized silver powder via reduction of silver nitrate by sodium formaldehyde sulfoxylate in acidic pH medium, **P.K.Khanna** and VVVS Subbarao, **Materials Letters**, 2242, **57**, 2003 (ISSN No. 0167-577X)
131. Stable light emission from CdS quantum dots in DMF, **P.K.Khanna**, R. Gokhale and VVVS Subbarao, **Materials Letters**, 2489, **57**, 2003 (ISSN No. 0167-577X)

B. PUBLICATIONS IN THE AREA OF ORGANO-METALLIC/INORGANIC CHEMISTRY (12)

132. Dinuclear Diselenolenes Derived from Cycloalkeno-1,2,3-selenadiazoles and Tetrakis (triphenylphosphine)palladium, S.Ford, **P. K. Khanna**, C.P.Morley and M.D.Vaira, **J. Chem. Soc., Dalton Trans.**, 791, **1999**. (ISSN No. 1472-7773)
133. Fluorescence Spectra of Tb³⁺-doped Rare-Earth based Powder Phosphor. U.Rambabu, **P.K.Khanna** and S.Buddhudu, **Materials Letters**, 121, **38**, 1999. (ISSN No. 0167-577X)
134. Fluorescence Spectra of Eu³⁺-doped Lanthanide Oxybromide based Powder Phosphors. U.Rambabu, **P.K.Khanna**, I.C.Rao and S.Buddhudu, **Materials Letters**, 269, **34**, 1998. (ISSN No. 0167-577X)
135. Oxidative Addition of C-Se Bond to a Pt(II) Centre: Contrasting Reactions of [(MCl₂(PhCN)₂)] (M=Pd, Pt) With Cyclohepteno-1,4-Dselenin. **P.K.Khanna**, C.P.Morley and M.D.Vaira, **J.Chem.Soc.,Chem.Commun.**, 913, 1997. (ISSN No. 1359-7345)
136. The Reaction of Tetrakis(Triphenylphosphine)Platinum with Se: X-ray Crystal Structure of [Pt(Se₂CH₂)(PPh₃)₂]. **P.K.Khanna**, C.P.Morley, M.B.Hursthouse, K.M.A.Malik and O.W.Howarth., **J.Hetero.Chem.**, 519, **6**, 1995. (ISSN No. 0022-152X)
137. The Reaction of Tetrakis(Triphenylphosphine)Platinum with Cycloocteno-1,2,3- Selenadiazole., **P.K.Khanna** and C.P.Morley, **J.Chem.Res(S)**, 64, 1995. (ISSN No. 0308-2342)
138. Novel Vinylic Selenides and Their Platinum Group Metal Complexes, **P.K.Khanna**, and C.P.Morley, **J. Organomet. Chem.**, 109, **450**, 1993. (ISSN No. 0022-328X)
139. Synthesis and Characterisation of Palladium(II) Complexes of Some Tellurium Heterocycles., **P.K.Khanna**, and H.B.Singh, **Trans. Met. Chem.**, 311, **16**, 1991. (ISSN No. 0340-4285)
140. Study of The Donor Properties of Some Cyclic Tellurides and 4,5-(1,8-bis (Thio-methyl) Naphthalene)-1,3-Dithiole-2-Thione, S.K.Kumar, **P.K.Khanna**, and H.B.Singh, **Ind. J. Chem.**, 720, **30A**, 1991. (ISSN No. 0376-4710)
141. The Molecular Structures of (CH₃)₆ Sn₂ and (CH₃)₂ Te₂ by Gas Electron Diffraction. Halland, A.Hammel, H.Thomassen, H.Voldenm, H.B.Singh and **P.K.Khanna**, **Z. Naturforsch.**, 1143, **45B**, 1990. (ISSN No. 0932-0776)
142. Synthesis of 1,2-Ditelluran., H.B.Singh and **P.K.Khanna**, **J. Organomet. Chem.**, 9, **338**, 1988. (ISSN No. 0022-328X)
143. Charge-transfer Complexes: Synthesis of 3,5-Naphthotelluracycloptnane, A New Electron Donor, H.B.Singh, **P.K.Khanna**, and S.K.Kumar, **J. Organomet. Chem.**, 1, **338**, 1988. (ISSN No. 0022-328X)

C. PAPERS PUBLISHED IN PROCEEDINGS IN THE FIELD OF NANOSCIENCES(17)

144. D. D. Kajale, V. B. Gaikwad, **P. K. Khanna**, G. H. Jain, Gas Sensing Performance of Pure and Modified SrTiO₃ Thick Film Resistors, In proceedings of 3rd International Conference on Sensing Technology, Nov. 30-Dec. 3, 2008, Tainan, Taiwan (Oral presentation) **(full paper)** pp422-25, 978-1-4244-2177-0/08/2008 IEEE
145. M. K. Deore, V. B. Gaikwad, G. H. Jain, **P. K. Khanna**, Effect of Nano Ag on Gas Sensing Performance of ZnO Thick Films. 3rd International Conference on Sensing Technology, Nov. 30-Dec. 3, 2008, Tainan, Taiwan (Oral presentation). **(full paper)** pp547-51, 978-1-4244-2177-0/08 IEEE
146. Green synthesis of surface capped metals nano-particles: The Chemistry and the Nanotechnology, **P.K.Khanna**, Proceed. Of the National Conference on Nanomater. & Nanotech., University of Lucknow/MRSI, Lucknow, India, pp17-19, Dec. 8-10, 2007 **(full paper)**
147. Chloramphenicol stabilized silver nanoparticles for antibacterial activity against salmonella species, Sharvil S. Patil, Mithun V. Varghese, Ravindra. S. Dhumal , A. R. Paradkar, **P. K. Khanna**, Proceed. Of the National Conference on Nanomater. & Nanotech., University of Lucknow/MRSI, Lucknow, India, pp98-100, Dec. 8-10, 2007 **(full paper)**
148. Polymer-semiconductor nano-composites thin films for field emission displays, A.V. Kukhta , E.E. Kolesnik , S.A. Vorobyova , A.I. Lesnikovich , A. Kudlash, **P.K. Khanna**, Proceed of the 27th International display research conference, Moscow, Sept. 18-20, 2007 pp 334-36 **(full paper)**
149. Single mode wave guide fabricated from m-NA doped Au/PVA nano-composites, P. V. Adhyapak, Anu Vijayan, R. C. Aiyer, **P. K. Khanna**, International Conference on Recent Trends in Nanoscience & Technology – 2006 (ICRTNT-06), Jadhavapur, India, 7-9th Dec, pp 21-24, 2006. **(full paper)**
150. Synthesis and Characterization of copper nanoparticles , Marimuthu R, Gaikwad S., Singh N, Adhyapak P.V, Gurunathan K, and **P. K.Khanna**, International Conference on Recent Trends in Nanoscience & Technology – 2006 (ICRTNT-06), Jadhavapur, India, 7-9th Dec, pp 24-27, 2006. **(full paper)**
151. ‘Top-down’ method for generation of re-dispersible silver nano-particles, Recent Trends in Nanomaterial Science”, by **P. K. Khanna**, Shobhit Charan, Narendra Singh and Sham Deshmukh, Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006, published in the proceedings, **pp 7-11, 2006 (full paper)**
152. Novel synthesis of nano-sized Metal Phosphides by Narendra Singh and **P. K. Khanna**, Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006, published in the proceedings, **pp 31-35, 2006 (full paper)**
153. Synthesis and characterization of nano-particles of anatase TiO₂ and its transparent film in PVA by Shobhit Charan, Narendra Singh, Rahul Jain and **P. K. Khanna**, Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006, published in the proceedings, **pp 40-44, 2006 (full paper)**
154. Preparation and studies of PVA coated CdSe nanoparticles via organometallic chemistry, Yogesh Patil, Narendra Singh, and **P. K. Khanna**, International Conference on Advances in Polymer Blends, Composites, IPNS and Gels: Macro to Nano Scales, Kottayam, Kerala, **March 21- 23, 2005 (full paper)**
155. Synthesis of nano particles of silver and gold by solution methods, **P. K. Khanna**, International conference on business opportunities in microsystems and nanotechnology, **Feb. 3-4, New Delhi, India, 2005 (full paper)**
156. Hydrosilation of hydroxy terminated polybutadiene at milder experimental conditions and its nanocomposite with CdS, **P.K. Khanna**, R. Gokhale and V.V.V.S. Subbarao, U.P.Mulik and B.K.Das, Intl. seminar on advances in polymer technology to Cochin University **APT04**, India, **pp256-261, 16-17 Jan, 2004 (full paper)**
157. Synthesis and characterization of gold nanoparticles in PVA, **P.K. Khanna**, R. Gokhale, VVVS. Subbarao, B.K.Das, CVV. Satyanarayana, Proc. of the INAE conf. in Nanotechnology, **ICON 2003**, Chandigarh, India, **pp701-707, 22-23 Dec. 2003 (full paper)**
158. One step synthesis of submicron silver and nanosized silver-palladium powder, **P.K.Khanna**, R. M. Gorte, S. Pitale, G. J. Phatak, S. B. Rane and D. P. Amalnerkar, Proceedings of National Seminar on Materials Characterisation and Processing, ed. B. B. Nayak, **pp 121, Jan. 2001 (full paper)**
159. Tuned emission from semiconductors of metal chalcogenides encapsulated in polymer, human resource unit, IInd interaction meet of BOYSCAST fellows, DST, Govt. of India, New Delhi, India, April, 2000 by **P. K. Khanna**, published in the proceedings, **pp 282, 2000 (full paper)**
160. Mass spectrometry of organochalcogen compounds. **P. K. Khanna**, **Bull. Ind. Mass Spect.**, 7, 1992

D. PATENTS APPLIED FOR

1. A process for preparation of submicron and nanosized cadmium sulphide, **P. K. Khanna** and R. M. Gorte- **Ind.Patent** (filed), **Application No. 1311/Del/2002 (30.12.2002)**
2. A process for preparation of nano sized silver-palladium co-powder , **P. K. Khanna-Ind. Patent** (filed), **Application No. 1312/Del/2002 (30.12.2002)**
3. A Process for preparation of semiconductor grade Sulfuric Acid, U. Rambabu **P. K. Khanna**, and R. S. Sonawane-**Ind. Patent** (filed), **Application No. 965/Del/99**
4. A Process for preparation of semiconductor grade methanol, U. Rambabu **P. K. Khanna**, S. K. Apte and B. B. Kale – **Ind. Patent** (filed), **Application No. 964/Del/99**

5. Preparation method of indium nano particles, K. W. Jun, **P.K.Khanna**, J-O Baeg and K-B Hong, **Korean Patent** applied **2004-96837 (24. 11. 2004)**
6. Preparation method of indium phosphide nano particle, K. W. Jun, **P.K.Khanna**, J-O Baeg and M-S Eum, **Korean Patent** applied **2003-32547 (22.05.2003)**
7. Preparation method of indium phosphide nano particles quantum dot, K. W. Jun, **P. K. Khanna**, J-O Baeg and K-B Hong, **Korean Patent** applied **2004- 110740 (22. 12. 2004)**
8. TOP mediated one-step preparation of nanocrystalline silver powder for application in electronics, **P. K. Khanna**, S. Charan and N. Singh, **Ind. Patent** (submitted to DIT), Jan. 2005
9. Process development of nano-sized silver powder by double reduction method, **P. K. Khanna**, S. S. Deshmukh, and Y. Gokhale, **Ind. Patent** (submitted to DIT), 2006.
10. Development of 'Phosphorus-Paste' for Applications in Solar Cell, P.K.Khanna, S. Charan, Y. Patil, R. Gorte, U.P. Mulik, B.K.Das, **Ind. Patent** (filed thru DIT), 2006.
11. Method for preparation of metal selenide quantum dots **PK Khanna**, RK Beri, provisional **patent** application no. **1799/MUM/2008, (filed Aug 27, 2008; final specification filed Aug., 21, 2009)**
13. **Solventfree Method for Prepration of selenadiazoles (filed) 2014**

F. PAPERS PRESENTED IN SYMPOSIA/CONFERENCES (winner of 13 best poster presentation awards)

1. Photocatalytic Studies of Chemically Prepared ZnO/CdS Core/Shell Nanostructures” Suraksha Rasal, Priyesh V. More, Chaitanya Hiragond, Sunita Jadhav and Pawan K. Khanna, National Seminar on “Utility of Basic Sciences for Engineers” i.e. UBSE-2k15, 21th November, 2105 B. S. Anangpuria Institute of Technology and Management (BSAITM), Faridabad
2. Comparative study of Photocatalytic behaviour of Anatase and Rutile TiO₂ Nano-Particles against Organic Dyes” Ashish Gautam , Anuraj Kshirsagar , Rahul Biswas , and Pawan K Khanna, National Seminar on “Utility of Basic Sciences for Engineers” i.e. UBSE-2k15, 21th November, 2105 B S Anangpuria Institute of Technology and management (BSAITM), Faridabad.
3. **ChemInform Abstract: Organoelement Compounds; An Efficient Solventless Synthesis of Cycloalkeno-1,2,3-selenadiazoles, Their Antimicrobial Studies, and Comparison with Parent Semicarbazones.** Aditi A. Jadhav, Vaishali P. Dhanwe, Prasad G. Joshi and Pawan K. Khanna, Article first published online: 13 AUG 2015, DOI: 10.1002/chin.201535222© 2015 WILEY-VCH Verlag GmbH, Weinheim, Fed. Rep. of Germany
4. Sreenu Bhanoth , Aakriti Tyagi, Anita K. Verma, P.K.Khanna, Presented poster on “cytotoxicity of II-VI Semiconductor Quantum dots” in National Conference on Chalcogen Chemistry, DIAT(D.U), Girinagar, Pune, Jan, 11-12,2015.
5. Sreenu Bhanoth and P.K.Khanna, Oral presentation on “Synthesis, characterization and cytotoxicity study of core-shell II-VI semiconductor QDs”. National Conference on Frontiers in chemical and Material sciences (FCMS-2015) at Shivaji University Kolhapur, Jan 16-17, 2015.
6. Aditi Jadhav, P. G. Joshi, P. K. Khanna, “Chemistry of selenadiazoles-organoselenium compounds” in National conference on chemistry of chalcogens and related topics (NC³-2013) held on 13-14 January 2015 at DIAT, Pune .
7. Aditi Jadhav, P. K. Khanna, “Synthesis and Characterizations of Novel 1,2,3-selenadiazoles” in National conference on chemistry of chalcogens and related topics (NC³-2015) held on 13-14 January 2015 at DIAT, Pune (oral presentation)
8. Aditi Jadhav, P. More, P. K. Khanna, “Thermal Decomposition of 1,2,3-selenadiazoles: Synthesis of Magic Number Clusters of Cadmium selenide” in National conference on chemistry of chalcogens and related topics (NC³-2015) held on 13-14 January 2015 at DIAT, Pune (**Won best poster prize**)
9. Aditi Jadhav, P. K. Khanna, “Chemistry and applications of Selenadiazoles” in nanotechnology” in 17th CRSI National Symposium in Chemistry held on February 06-08, 2015 at CSIR-NCL, Pune
10. Anuraj Kshirsagar, P. More, P. K. Khanna, “Application of an Organoselenium Precursor in Synthesis of Copper Indium Diselenide (CuInSe₂) Nanoparticles” presented in National conference on chemistry of chalcogens and related topics (NC³-2015) held on 13-14 January 2015 at DIAT, Pune.
11. Anuraj S. Kshirsagar, Priyesh V. More and Dr. P. K. Khanna “Nano-Inks for Advanced Electronic Applications” presented in 17th CRSI National Symposium in Chemistry held on February 06-08, 2015 at CSIR-NCL, Pune.
12. Anuraj Kshirsagar, P.K. Khanna, “Synthesis and Characterization of α - (dichlo p-methoxyphenyltelluro) propiophenone” presented in National conference on Frontiers in Chemical and Material Sciences (FCMS) organised by Department of Chemistry held on 16-17 Jan. 2015 at Shivaji University, Kolhapur. (**Won best poster prize**)
13. Sreenu Bhanoth and P. K. Khanna, Co-sensitization of CdSe with CdS and its solar cell fabrication 2nd International conference on Physics of Materils and Materials Based Device Fabrication (ICPM-MDF) at Shivaji University Kolhapur, Jan 13-15, 2014.
14. Sreenu Bhanoth and P. K.Khanna, presented poster on synthesis of Core-shell Quantum dots CdS/CdSe at International conference on Inorganic and structural chemistry (ICSIC-2015) at National Chemical Laboratory, Dec, 4-5, 2014.
15. Aditi Jadhav, P. More, P. K. Khanna, “Early stage nano-clusters of CdSe by use of 1, 2, 3-selenadiazoles”. In 3rd International Conference on Nanomaterials - Research & Application *NANOCON* - 14-15th October 2014 at Pune

16. Anuraj Kshirsagar, N. Singh, P More, P. K. Khanna, “Nano-Inks for Advanced and Green Future” presented in 3rd International Conference, NANOCON 014 held on 14-15th October 2014.
17. Aditi Jadhav, P. K. Khanna, “Selenadiazole, an Important Organoselenium Precursor for Nanotechnology” in International Conference on Structural and Inorganic Chemistry, 4-5 December 2014 at CSIR-NCL, Pune.– Presented
18. Sreenu Bhanoth and P. K. Khanna, Synthesis of quantum dots and their applications. 24th Material Research society of India at Indira Gandhi Centre for Atomic Research, Kalpakam, India, February 11-13, 2013.
19. Sreenu Bhanoth, Rajendra Prasad. M.B, Habib M Pathan and Pawan K. Khanna, CdSe Sensitized Porous Titania Photoanodes for Excitonic Solar cell Applications at i-mpact of Chemistry on Nanotechnology (i-CNT-2013) at DIAT, Pune, India October 28-29, 2013.
20. Amit Kumar, Rahul Vijay E.V, P.S Kulkarni, P.K Khanna, A.B Samui; Phase Change Cotton Tape for Thermal Management Poster presentation in National Seminar on “Recent Trends in Chemical and Material Science (RTCMS-2013)” organized by Bharati Vidyapeeth University, Pune on 12-13 Jan, 2013. **(Winner of best poster presentation award)**
21. Oxygen sensing ability of nanocomposites consisting of pedot:pss and gold nanoparticles, A. Kukhta, P. K. Khanna, Physics, Chemistry and Application of Nanostructures, Minsk, Belarus, 2013
22. P. G. Joshi, P. K. Khanna presented a poster on “1, 2, 3- Selenadiazoles: “A Review of their Biological Applications”, a poster presented at National Conference on Chemistry of Chalcogens”, organized by Department of Applied Chemistry, DIAT, Pune, 14-15 Jan 2013.
23. Sreenu Banoth, Ramana Rao, P Rajendra, P.K. Khanna, a poster on “Core/shel quantum dots for solar cell & bio-application” in National Conference on “Chemistry of Chalcogen” organized by Defence Institute of Advanced Technology Pune, 14-15th Jan 2013
24. Sreenu Banoth, Ramana Rao, P Rajendra, P.K. Khanna, a poster on “CdSe QDs Detection of heavy metal Ions” in National Conference on “Chemistry of Chalcogen” organized by Defence Institute of Advanced Technology Pune, 14-15th Jan 2013
25. Sreenu Banoth, Ramana Rao, P Rajendra, P.K. Khanna, a poster on “CdSe quantum Dots sensitized Titania Films photonodes for solar cells” in National Conference on “Chemistry of Chalcogen” organized by Defence Institute of Advanced Technology Pune, 14-15th Jan 2013
26. Aditi Jadhav, P. G. Joshi, P. K. Khanna, poster presentation on ‘Chemistry of Selenadiazoles–Organoselenium Compounds’ in National Conference on “Chemistry of Chalcogen” organized by Defence Institute of Advanced Technology, 14-15th Jan 2013. **(Winner of best poster award winner)**
27. Vaishali Dhanwe, Aditi Jadhav, P. G. Joshi, P. K. Khanna, poster presentation on “Applications of Semicarbazones for their respective selenadiazoles”. In National Conference on “Chemistry of Chalcogenes” organized by Defence Institute of Advanced Technology, Pune, 14-15th Jan 2013.
28. Namrata Gaikwad, Priyashree Sinha and P. K. Khanna presented a poster on “ “Optical properties of Cdse & ZnSe Quantum Dots loaded in PVA”. in National Conference on “Chemistry of Chalcogen” organized by Defence Institute of Advanced Technology Pune, 14-15 Jan 2013.
29. Sreenu Bhanoth and P. K. Khanna, Overview of Semiconductors/Quantum Dots solar cells, Conference New challenges in chemistry and Nanoscience at Bharathi Vidyapeeth (Deemed University) Pune, India 13-14 February, 2012. **(Best poster presentation Award).**
30. Sreenu Bhanoth and P. K. Khanna, Synthesis of core–shell ZnSe/CdSe by use of cyclohexeno-1,2,3-selenadiazole. 1st International Conference on Functional Materials for Defence Application (ICFMD-2012), DIAT, Pune, 8-20 May, 2012.
31. Effect of Irradiation by 120 MeV Si¹⁰⁺ Ions on the Optical and Electrical Properties Of PMMA/silver Nanocomposites by Chaitali Gavade, N.L. Singh, P. K. Khanna, Fouran Singh, International Conference on Materials for Advanced Technologies (ICMAT-2011) during 26th June- 1st July 2011 at Suntec, Singapore (Oral Presentations).
32. Effect of Ion Beam Irradiation on the Magnetic and Electrical Properties of Polystyrene (PS)/Nickel Nanocomposite by N.L. Singh, Chaitali Gavade, P.K.Khanna, Sunil Shah, International Conference on Materials for Advanced Technologies (ICMAT-2011) during 26th June-1st July 29, 11 at Suntec, Singapore (Oral Presentations).
33. Simplified polymerization of pyrrole by Shubhangi R. Damkale, **Neda Farhan**, Kunal H. Kate and **P. K. Khanna**, International Symposium on Materials Education, March 26-28, 2011 at Yashada (organized by IISER, NCL, C-MET and DIAT, Pune) **(Winner of one of the IIIrd prize for best poster presentation)**
34. Synthesis and optical properties of hydrophilic quantum dots of CdSe by K. Dhanabalan, Shubhangi R. Damkale, K. Gurunathan and P. K. Khanna, International Symposium on Materials Education, March 26-28, 2011 at Yashada (organized by IISER, NCL, C-MET and DIAT, Pune)
35. Fabrication and Optical properties of ZnO/PMMA nano-composite film Shubhangi R. Damkale, Ganesh Lonkar, Kunal H. Kate and P. K. Khanna, International Symposium on Materials Education, March 26-28, 2011 at Yashada (organized by IISER, NCL, C-MET and DIAT, Pune)
36. Effect of SHI irradiation on dielectric spectroscopy and thermal properties of silver nanoparticle embedded polystyrene matrix by Chaitali Gavade, N.L.Singh, Anita Sharma, P.K.Khanna, Fouran Singh, International Conference on Swift

- Heavy Ions in Materials Engineering and Characterization (SHIMEC 2010), Oct.6-9,2010, IUAC, New Delhi- Oral Presentation
37. "Green" synthesis of metal selenide nanocrystals: the scope of 1,2,3-selendiazoles in the synthesis of magic-size nanocrystals and quantum dots, R. K. Beri and P. K. Khanna, International conference on nanotechnology-materials and composites for frontier applications (NANOCON 10), Bharti Vidyapeeth, Pune 14-15th October 2010
 38. Novel organometallic synthesis of nano-sized silver selenide: a potential magneto-resistive material, R K. Beri, A. K. Viswanath and P. K. Khanna, Int. Workshop and Symposium on glass/glass ceramic materials, July 7-11, Pune, 2010
 39. Glycerol Mediated Low Temperature Synthesis of Nickel Nanoparticles by Solution Reduction Method. Kalpana Singh, Kunal H Kate, C.V.V.Satayanarayana, P.K.Khanna , International conference on nanotechnology-materials and composites for frontier applications (NANOCON 10), Bharti Vidyapeeth, Pune 14-15th October 2010
 40. Polypyrrole(PPy)/ Ag Nano-composite via thermally generated in-situ nano-Ag: Reaction progress using UV spectroscopy, Kunal H Kate, Shubhangi R. Damkale, A. K Vishwanath, S.H. Sonawane, P.K. Khanna, Int. Workshop and Symposium on glass/glass ceramic materials, July 7-11, Pune, 2010
 41. Preparation and Spectral Properties of blue light Emitting ZnSe Nanocrystals in commercial Polyvinylalcohol(PVA) films, Namrata Gaikwad, R.K.Beri and P.K.Khanna,UGS Sponsored 'National Seminar on Preparation of Nnaomaterials and their application', organized by Arts,Commerce and science college, Nandgaon,Mah,Feb-20-22,2010.
 42. *In situ* synthesis of silver nano-particles in poly(ethylene glycol methacrylate phosphate) *via* photopolymerization process and its application to uranium ion adsorption by Sadanand Das, A.K. Pandey, V.K.Manchanda, A.A.Athawale, P.K.Khanna, 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**) Dec 8-12, 2008, Pune, **India (Winner of best poster presentation award)**
 43. Studies on Light Emitting 'Magic Number' CdSe in Commercial Polymethylmethacrylate by B.Bharate, Priyesh More, A. K. Vishwanath, and P. K. Khanna 2nd Int Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**) Dec 8-12, 2008, Pune, India (**Winner of best poster presentation award**)
 44. One-Pot Synthesis of Cobalt and Nickel Nanoparticles by Priyesh More, Jagdish Jawalkar, B.G. Bharate and P.K. Khanna, 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**) Dec 8-12, 2008, Pune, India
 45. A Novel single source precursor for CdSe quantum dots by P.K. Khanna, Rahul Shewate, Priyesh More, B.G. Bharate, R.K. Beri, A.K. Vishwanath. 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**), Dec 8-12, 2008, Pune,
 46. Green synthesis of "Magic-sized" CdSe quantum dots by Rupinder Beri and P.K.Khanna 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications(**SAMPADA-2008**), Dec 8-12, 2008, Pune, India
 47. Synthesis of Magnesium Carbonate (MgCO₃) Nanoparticles Using Sonochemical Carbonization, S. H. Sonawane , S. P. Meshram, P.K. Khanna 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**), Dec 8-12, 2008, Pune, India
 48. Fabrication of photoactive TiO₂/PMMA films, Priyesh More, Ritesh Kumar, Yogesh Patil, S.H.Sonawane and P.K.Khanna, 2nd International Symposium on Advanced Materials And Polymers For Aerospace And Defense Applications (**SAMPADA-2008**) Dec 8-12, 2008, Pune, India
 49. Sono-chemical synthesis of γ -iron oxide nano-particles, Tushar Rastogi and P. K. Khanna, DAE-BRNS International Symposium on Materials Chemistry (**ISMC-2008**) December 2-6, 2008, Bhabha Atomic Research Centre, (BARC), Mumbai, India
 50. Silver nano-particles in poly(ethylene glycol methacrylate phosphate) for uranium ion adsorption, Sadanand Das, A.K. Pandey, V.K.Manchanda, A.A.Athawale, P.K.Khanna, DAE-BRNS International Symposium on Materials Chemistry (**ISMC-2008**) December 2-6, 2008, Bhabha Atomic Research Centre, (BARC), Mumbai, India (**Winner of best poster presentation award**)
 51. Large scale synthesis of Palladium nano-particles at ethanol/water refluxing Temperature: synthesis of Ag-Pd alloy via palladium seeds P.K.Khanna, B.G.Bharate International Conference on Biomedical Engineering & Nanotechnology (**ICBENT-2008**) Kolhapur, India, October 21-23, 2008
 52. . Magnetic nickel nanoparticles: effect of reducing agent on the synthesis Priyesh More, Jagdish Jawalkar, B. G. Bharate, and P. K. Khanna, International Conference on Magnetic Materials & their Applications for 21st Century MMA 21, NPL, New Delhi, India, Oct. 21st -23rd, 2008
 53. Effect of mNA on the optical properties of TiO₂ Nano-particles, Jagdish Jawalkar, Priyesh More, Khanna P.K., Raman Memorial Conference, University of Pune, Feb. 24, 2008
 54. Synthesis of re-dispersible capped copper nanoparticles Priyesh More, Jagdish Jawalkar, P. K. Khanna, Raman Memorial Conference, University of Pune, Feb. 24, 2008
 55. Synthesis of re-dispersible capped copper nanoparticles , P. K. Khanna, Priyesh More, Jagdish Jawalkar, 19th MRSI-AGM, Trivendrum, Kerala, Feb. 14-16, 2008
 56. Drug loaded Silver nanoparticles as an antibacterial agent against drug resistant *Salmonella* species, Sharvil S. Patil, Mithun V. Varghese, Ravindra. S. Dhumal,P. K. Khanna, 19th MRSI-AGM, Trivendrum, kerala, Feb. 14-16, 2008

57. Chloramphenicol stabilized silver nanoparticles for antibacterial activity against salmonella species, Sharvil S. Patil, Mithun V. Varghese, Ravindra. S. Dhumal , A. R. Paradkar, P. K. Khanna, National Conference on Nanomater. & Nanotech., University of Lucknow/MRSI, Lucknow, India, Dec. 8-10, 2007.
58. Single-step synthesis of surface capped copper nanoparticles, P. K. Khanna, Trupti S. Kale, Mushtaq Shaikh, International conference on natural polymers, bio-polymers, bio-materials, their composites, blends, IPNS and gels: macro to nano scales-2007, November 19-21, 2007 , Institute for macromolecular science and engineering, MG Univ, Kottayam, Kerala, India
59. Sonocrystallization: A bottom up technique for drug nanoparticles, Ravindra S. Dhumal, Anant Paradkar, P. K. Khanna, International conference on natural polymers, bio-polymers, bio-materials, their composites, blends, IPNS and gels: macro to nano scales-2007, November 19-21, 2007 , Institute for macromolecular science and engineering, MG Univ, Kottayam, Kerala, India
60. N. Singh and P. K. Khanna, Novel Approach to Transition Metal Phosphides, National workshop on Nanomaterials and Nanotechnology, University of Lucknow and MRSI Lucknow, March 24-25, 2007 (**WINNER OF BEST POSTER PRESENTATION AWARD**)
61. Nearly Mono-disperse Quantum Dots of ZnSe: Synthesis and Characterization, Srinivas Rao, N. Singh, K. Gurunathan, N. R. Munirathanam, T.L. Prakash, P.K.Khanna, ICNME-2006, Nov. 27-29, 2006, C-MET, Pune, India
62. Nano-particles of metals for electronics and opto-electronics: The Chemistry and the Nanotechnology, D. Kulkarni, Narendra Singh, S. Deshmukh, S. Gaikwad, P.V.Adhyapak, K. Gurunathan, R. Marimuthu, P. K. Khanna, ICNME-2006, Nov. 27-29, 2006, C-MET, Pune, India
63. Single mode wave guide properties of m-NA doped Au/PVA nano-composites: Synthesis, characterization and studies, P. V. Adhyapak, Narendra Singh, Anu Vijayan, R. C. Aiyer, P. K. Khanna, ICNME-2006, Nov. 27-29, 2006, C-MET, Pune, India
64. Synthesis and Characterization of copper nanoparticles, R. Marimuthu, S. Gaikwad, N. Singh P.V. Adhyapak, K. Gurunathan and P. K. Khanna, International Conference on Recent Trends in Nanoscience & Tech.-2006 (ICRTNT-06), 7-9th Dec, pp 24-27, 2006.
65. ‘Top-down’ method for generation of re-dispersible silver nano-particles, Recent Trends in Nanomaterial Science”, by P. K. Khanna, Shobhit Charan, Narendra Singh and Sham Deshmukh, Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006.
66. Novel synthesis of nano-sized Metal Phosphides by Narendra Singh and P. K. Khanna, Academy for Science, Technology and Communication, Hyderabad, 26th August, 2006,
67. Synthesis and characterization of nano-particles of anatase TiO₂ and its transparent film in PVA by Shobhit Charan, Narendra Singh, Rahul Jain and P. K. Khanna, Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006.
68. Synthesis of re-dispersible quantum dots of CdSe and PbSe derived from octeno-1,2,3-selenadiazole, Shobhit Charan, Narendra Singh, P. K. Khanna, R. Pasricha and K. R. Patil, Self-assembly Routes for Nanotech Materials(SARNaM-06), April 26-28, 2006, Bhabha Atomic Research Centre, Mumbai, India
69. Reduction of silver salts by tri-octylphosphine: Synthesis of re-dispersible crystalline silver nano-particles, P. K. Khanna, Narendra Singh, Shobhit Charan and K. R. Patil, International Conference on Nanoscience and Nanotechnology, IIT Delhi, ICONSAT 2006, March 16-18, 2006
70. Tuned optical properties and light emission from quantum dots of CdS in polymethyl methacrylate (PMMA), N. Singh, P. Adhyapak and P. K. Khanna, 17TH MRSI, Lucknow, Feb.13-15, 2006
71. Nanotechnology via solution chemistry, Shobhit C. and P.K. Khanna, 17TH MRSI, Lucknow, Feb.13-15, 2006 (**WINNER OF BEST POSTER PRESENTATION AWARD**)
72. Optically transparent TiO₂/PVA nano-composite: synthesis and characterization, P.K. Khanna, Shobhit C. and N. Singh, 17TH MRSI, Lucknow, Feb.13-15, 2006
73. Novel method of preparation of Pd/PAni nanocomposite by direct in-situ reduction of PdCl₂ by Emeraldine base, Deepti Kulkarni, Shobhit Charan and P.K. Khanna, Raman memorial conference, Feb 24th-25th, 2006, Pune University, India,
74. One step fabrication of selenium rods by solution method, Gita lachan, Shobhit Charan, and P.K. Khanna, Raman memorial conference, Feb 24th-25th, 2006, Pune University, India, (**FIRST PRIZE WINNER POSTER PRESENTATION AWARD**)
75. A novel low temperature preparation of nano sized silver-palladium alloy, Shobhit Charan and P. K. Khanna, National Symposium and Conference on Solid Chemistry and Allied Areas, Goa University, Goa, December 1-3, 2005
76. Effect of organic chromophore on optical properties of Ag/PVA nano-composite, P. V. Adhyapak, P. K. Khanna, J. W. Dadge, R. C. Aiyer, National Symposium and Conference on Solid Chemistry and Allied Areas, Goa University, Goa, December 1-3, 2005
77. Quantum dots of CdS in polymethyl methacrylate (PMMA): synthesis and tuning of optical properties , Narendra Singh and P. K. Khanna, National Symposium and Conference on Solid Chemistry and Allied Areas, Goa University, Goa, December 1-3, 2005

78. Tuned optical properties of quantum dots of CdS in polymethyl methacrylate (PMMA) , Narendra Singh and P. K. Khanna, International Congress on nanotechnology, (ICNT) USA., San Francisco, Airport Marriott Hotel, Oct.31-Nov.4, 2005
79. One-step synthesis of morphologically challenging TOP capped PbSe pyramidal nano crystals, P.K. Khanna, Shobhit Charan, Ki-Won Jun, Anisha Gokarna and Sang Il Seok, First International Conference on Advances in Optical Materials (AIOM), Tucson, Arizona, USA, Oct., 12-16, 2005
80. Synthesis, Characterization and NLO Properties of m-NA Doped Ag/PVA Nanocomposite, P. V. Adhyapak, P. K. Khanna, J. W. Dadge, R. C. Aiyer, National Conference on Optics and Related Phenomen, Kollam, India, August 29-30, 2005
81. Tuning of morphology of Selenium by solvothermal method, Yogesh Patil and P K Khanna, ChinaNANO 2005 Beijing, June 9-11, 2005
82. *In situ* synthesized quantum dots of CdS in polymethylmethacrylate (PMMA) for light emission properties: changing the optical properties of semiconductor at will?, Narendra Singh and P. K. Khanna, National Conference on Nanotechnology, Noida, New Delhi, May 27-28, 2005
83. Organically capped soluble silver nano-particles for opto-electronic applications, Shobhit Charan, Narendra Singh, P.K.Khanna, National Conference on Nanotechnology, Noida, New Delhi, May 27-28, 2005
84. Preparation and studies of PVA coated CdSe nanoparticles via organometallic chemistry, Yogesh Patil, Narendra Singh, and P. K. Khanna, International Conference on Advances in Polymer Blends, Composites, IPNS and Gels: Macro to Nano Scales, Kottayam, Kerala, March 21- 23, 2005
85. Processing of conducting polyaniline-CdS nano composite by use of organometallic cadmium precursor Narendra Singh, P.K.Khanna, M. V. Kulkarni, V.V.V. S. Subbarao, S. Lonkar and A. Kasi Viswanath, International Conference on Advances in Polymer Blends, Composites, IPNS and Gels: Macro to Nano Scales, Kottayam, Kerala, March 21- 23, 2005
86. One-step synthesis of nano-sized Ag-Pd co-powder, R. Warhekhar, A. Jirwankar, S.Charan and P.K.Khanna, Raman Memorial Conference, University of Pune, India, Feb. 25-26, 2005 (**FIRST PRIZE WINNER POSTER PRESENTATION AWARD**)
87. Large scale preparation of organically capped silver nano particles by P.K.Khanna, Shobhit Charan and Narendra Singh, XVI Annual General Meeting MRSI, NCL, Pune, Feb. 9-10, 2005.
88. A novel solution method for conversion of commercial selenium powder to selenium rods via selenium nano balls by P.K.Khanna and Yogesh Patil XVI Annual General Meeting MRSI, NCL, Pune, Feb. 9-10, 2005
89. Ag/Polyaniline nano composite via *in-situ* photo generation of silver nano particles for corrosion protection by P. K. Khanna, Narendra Singh, Shobhit Charan and A. K. Vishwanath, XVI Annual General Meeting MRSI, NCL, Pune, Feb. 9-10, 2005
90. Synthesis of nano sized silver via formation of intermediate silver citrate and its reduction by sodiumformaldehyde sulfoxylate , P.K.Khanna, Yashodhan Gokhale and Shobhit Charan, XVI Annual General Meeting MRSI, NCL, Pune, Feb. 9-10, 2005
91. An effective synthesis of nano crystalline InP from Na₃P by Ki Bum Hong, P.K.Khanna, K-W. Jun, Min-Sik Eum and J-O. Baeg, KSIEC Spring Meeting, S.Korea, May 7-8, 2004
92. Colloidal Synthesis of PbSe Quantum Dots by Anisha Gokarna, P.K. Khanna, Ki- Won Jun, Jin-Ook Baeg and Sang Il Seok, KSIEC Spring Meeting, S.Korea, May 7-8, 2004
93. Solvo-thermal synthesis of lead chalcogenides nano powders by P. K. Khanna V.V.V.S.Subbarao, Mangesh Wagh, Pramod Jadhav and Rina Gorte, IXth International conference on the chemistry of selenium and tellurium (ICCST-9), IIT-Bombay, Mumbai, February, 23-27, 2004
94. Reduction of selenium in DMF and synthesis of silver selenide nano powder from silver nitrate P. K. Khanna V.V.V.S.Subbarao and Rahul Gokhale, IXth International conference on the chemistry of selenium and tellurium (ICCST-9), IIT-Bombay, Mumbai, February, 23-27, 2004
95. An improved and efficient synthesis of Octeno-1,4-diselenin and its Charge-transfer complexes derived from pi-acceptors by P. K. Khanna, Sandhya Vyas and Sujata Waghmare, IXth International conference on the chemistry of selenium and tellurium (ICCST-9), IIT-Bombay, Mumbai February, 23-27, 2004
96. Synthesis and optical properties of silver nano-particles in PVA by P. K. Khanna, R. Gokhale, & VVVS Subbarao, VIth National Symp. in Chemistry, IIT Kanpur, Feb. 2004
97. Hydrosilation of hydroxy terminated polybutadiene at milder experimental conditions and its nano-composite with CdS* P.K. Khanna , R. Gokhale and V.V.V.S. Subbarao, Int. seminar on advances in polymer techn. Cochin University, India, 16-17 Jan, 2004
98. Synthesis and characterization of gold nano-particles in PVA, P. K. Khanna, R. Gokhale, V. V. V. S. Subbarao, B.K.Das and C.V.V. Satyanarayana, INAE conference in Nanotechnology, ICON 2003, Chandigarh, India., 22-23 Dec. 2003
99. In-situ preparation of polyaniline-CdS nano composite from organometallic cadmium precursor by P.K.Khanna, S.P.Lonkar, V.V.V.S. Subbarao and P.K.Girija, 2nd, MP3, IUMRS-ICAM, 2003, Kanagawa, Japan, Oct.11-13, 2003.
100. Tuned light emission from CdS/PVA nano composite-oral presentation by P.K.Khanna, Rahul Gokhale, V.V.V.S.

- Subbarao, P.K.Girija, and U.P.Mulik, 2nd, MP3, IUMRS-ICAM, 2003, Kanagawa, Japan, Oct.11-13, 2003.
101. Photoluminescence study of CdS nano-particles in DMF-poster by V.V.V.S. Subbarao and P.K.Khanna, Vth National Symposium in Chemistry, CLRI, Chennai, Feb. 2003.
 102. Novel method for synthesis of silver selenide: A giant magneto-resistive material by P.K.Khanna and B.K.Das, XIV Annual General Meeting MRSI, BARC, Mumbai, Feb.11-13, 2003, Poster presentation.
 103. Novel method for synthesis of Submicron sized silver powder via reduction of silver nitrate by organics by P.K.Khanna and V.V.V.S. Subbarao XIV Annual General Meeting MRSI, BARC, Mumbai, Feb.11-13, 2003, Poster presentation
 104. Stable and orange light emission from CdS-Polymer composite solution by P. K. Khanna, Rahul Gokhale, V.V.V.S..Subbarao, U.P.Mulik and B.K.Das. XIV Annual General Meeting MRSI, BARC, Mumbai, Feb.11-13, 2003.
 105. Submicron sized silver powder via in-situ formation of Tollen's reagent in acidic pH by P.K.Khanna, V.V.V.S.Subbarao and V.V. Dhapte, National seminar on electro and magneto ceramics devices and system, Organized by department of physics and electronics, SM Mahavidyalaya, Akluj, Solapur, 2002
 106. Nanosized silver powder via reduction of silver nitrate by SFS in acidic pH, P.K. Khanna and V.V.V.S. Subbarao, Ist Materials Science Forum on Sustainable Technologies, 17-19, Sept.,2002, Augsburg, Germany.
 107. Stable blue and orange light emission from CdS-Polymer composite solution by P. K. Khanna, Rahul Gokhale and B.K.Das., Ist International conference on Materials Processing for Properties and Performance(MP3), Singapore, 1-3 August, 2002.
 108. Synthesis of Cadmium Selenide from 4,5,6,7,8,9-Hexahydrocyclooctane-1,2,3-Selenadiazole- A Novel Source of Selenium. P. K. Khanna, R. M. Gorte, R. Gokhale, V.V.V.S. Subbarao and C. P. Morley 9th APAM, International seminar on Semiconducting Materials for Thermoelectric devices and solar power engineering, June 5 - 7, 2002, IMET RAS, Moscow, Russia.
 109. In-situ formation of CdSe nanoparticles via reduction of cadmium chloride in DMF, P. K. Khanna, R. M. Gorte, R. Gokhale, V.V.V.S. Subbarao and C. P. Morley, The International Scientific Conference on Crystallization in Nanosystems, 10-12 Sept. 2002, Ivanovo, Russia, organized by the Scientific Council on Theoretical Foundations of Chemical Technology of the RAS., Institute of Solution Chemistry of RAS, Ivanovo State University of Chemical Technology, Lomonosov Moscow State University, and the Mendeleev Russian Chemical Society.
 110. Synthesis of Cadmium Selenide from Selenadiazole and cadmium chloride in Ethylene Glycol, P. K. Khanna, R. M. Gorte and C. P. Morley, 3rd International Conference on Inorganic Materials, 7-10 Sept. 2002, Konstanz, Germany
 111. Poster presentation on synthesis of cadmium selenide from 1,2,3-selenadiazole by P. K. Khanna, R.M.Gorte, R.Gokhale, V.V.V.S.Subbarao and C.P.Morley, XIII Annual General Meeting MRSI, Hyderabad, Feb.7-9, 2002.
 112. Effect of zinc sulphide on absorption spectrum of cadmium sulphide nano particles by P. K. Khanna, Rahul Gokhale and V.V.V.S. Subbarao, National Seminar on Recent Trends in Chemistry, DAV College, Kanpur, India, October 5-6, 2001.
 113. Paper Presentation as poster on Nanoparticles of CdS from Sodium thiosulphate by P. K. Khanna and R.M.Gorte, National Seminar on Chemical Sciences, Advancing Frontiers Organised by DDU Gorakhpur and CDRI Lucknow, India, June 3-4, 2001.
 114. Paper Presentation as poster on Nanoparticles of Ag-Pd co-powders by P. K. Khanna, National Seminar on Chemical Sciences, Advancing Frontiers Organised by DDU Gorakhpur and CDRI Lucknow, India, June 3-4, 2001.
 115. Poster presentation on Thick film heat flux sensors using Ag/Ag-Pd thermopiles on alumina substrates by G.J.Phatak, S.S.Pitale, P. K. Khanna and D.P.Amalnerkar, VIII National Seminar on Physics and Technology of Sensors Organised by Indira Gandhi Research Centre for Atomic Research, Kalpakkam, India, Feb.27-March 1, 2001.
 116. National Seminar on Special Materials; Characterisation and Processings Organised by RRL Bhubneswar, India, 17-18 January 2001."One step synthesis of submicron silver and nanosized silver-palladium alloy" by P.K.Khanna, R.M.Gorte, S.Pitale, G.J.Phatak, S.B.Rane and D.P.Amalnerkar.
 117. Poster presentation on One step synthesis of submicron silver and nanosized silver-palladium powder by P. K. Khanna, R.M.Gorte, S.Pitale, G.J.Phatak, S.B.Rane and D.P.Amalnerkar, XII Annual General Meeting MRSI, Calcutta Jan31-Feb.2, 2001
 118. BOYSCAST Interaction meet, Organised by DST, New Delhi, National Botanical Research Institute, Lucknow, India, 18-20 April, 2000. Presentation of research training undertaken abroad by P. K. Khanna.
 119. Poster Presentation on Role of ZnS in Tuning Emission from Nanoparticles of CdS embedded in Polymer by P. K. Khanna and R.M. Gorte, AGM-Materials Research Society of India, Sardar Patel University, Baroda, India, 3-5 February, 2000
 120. Poster Presentation on Nanoparticles of CdS by P. K. Khanna, Indian Science Congress-2000, University of Pune, India, 3-7 January 2000.
 121. Seminar-Workshop on "Polymer and Vibrational Spectroscopy- Recent Advances in Research and Technology", 25-26 October, 1999, IIT Bombay- attended
 122. II-VI Semiconductor UK Meeting, Edinburg, UK, April 1998. Attended
 123. 11th Int. Symp. on Homogenous Catalysis, St. Andrews, Scotland, July, 1998- attended
 124. Scottish Universities Symp. on Inorg. Chem., Glasgow, Scotland, Sept, 1998. Attended
 125. Poster on Tuned Emission from polymer encapsulated quantum dots of CdS By P. K. Khanna and D. J. Cole-

- Hamilton, Third National Symposium on Nanoparticles-Nano III, London, England, December, 1998.
126. Poster on quantum dots of CdS encapsulated in polymer by P. K. Khanna, J. W. Allen and D. J. Cole-Hamilton, Industrial Materials for 21st Century, Electronic and Display, Royal Society of Edinburgh, Scotland, March, 1999.
 127. Poster on Pt-metal complexes of diimine ligands by P. K. Khanna, S.Raghavan and T.S.Srivastava, National Symp. in Inorganic Chemistry, Mudrai, India, March, 1995
 128. Pt- and Pd-complexes of novel selenium containing ligands by C. P. Morley and P. K. Khanna, 5th International Conference on the Chemistry of Platinum Group Metals, University of St. Andrews, UK, July, 1993.
 129. 21st Century Grant Holder Workshop, University of Sheffield, England, Sept. 1992.
 130. Poster on Pt- and Pd-complexes derived from 1,2,3- selenadiazoles, C.P.Morley and P. K. Khanna, Int. Conf. on Inorg. Chemistry, University of Sussex, England, July, 1991.
 131. Synthesis and characterization of novel tellurium containing polymers by P. K. Khanna and H.B.Singh, 25th Annual Convention of Chemists, Calcutta, Dec. 1988
 132. Heterocyclic tellurium compounds as ligands: some complexes of Pd(II), P. K. Khanna & H.B.Singh, 7th Annual Conf. Indian Council of Chemists, Gwalior, India Dec., 1988.
 133. Charge transfer in organotellurium compounds: synthesis of DDQ complexes of organic tellurides by H.B.Singh, S.K.Kumar and P.K.Khanna, National Symposium in Modern Trend in Inorganic Chemistry, IIT Madras, Jan., 1988.
 134. Charge-transfer in organotellurium chemistry by H.B.Singh, S.K.Kumar and P. K. Khanna, National Symposium on Unusual Valency States in Co-ordination Compounds, BARC, Bobmay, Nov. 1987.
 135. Heterocyclic tellurium compounds as ligands: some complexes of Pd(II) By P. K. Khanna, Research Scholar Meet, University of Bombay, Oct. 1987.
 136. Synthesis of 1,2-ditelluran by H.B.Singh and P. K. Khanna, 5th International Symposium on the Chemistry of Se and Te, Oak Ridge, Tennessee, USA, August, 1987.
 137. Charge transfer complexes, Synthesis of 3,5-naphtho-1-telluracyclopentane; a new electron donor by H.B.Singh, S.K.Kumar and P. K. Khanna, National Symposium on Organometallic Compounds, Darjeeling, India, April 1987.

F. OTHER PRESENTATIONS

- Light Emission from Quantum Dots in Polymer: synthesis, characterization and thin films preparation to **PAC of DST, Department of Chemistry, Jammu University, Jammu, India, April. 29, 2006 (an extended presentation for members and students)**
- Tuned Optical Properties from Inorganic/Polymer Nano-composites, Advanced Polymer for photonics, **DIT meeting of the peer group, DIT, New Delhi, Nov. 9, 2005**
- 3. Synthesis of Nano-particles of Noble and Transition Metals for Application in Electronic packaging and Optoelectronics, **Working Group Meeting, DIT, New Delhi, Nov. 2003**
- Light Emission from Quantum Dots of CdS in Polymer: synthesis, characterization and thin films preparation to **PAC of DST, Dept. of Chemistry, IIT Madras, Chennai, India, Feb. 14, 2002**
- Development of nano sized CdS for solar cell application to **PAC of DRDO/ISRO/UoP CELL, University of Pune, June 2002**
- Tuned Light Emission from Quantum Dots of CdS in Polymer: synthesis, characterization to **PAC of DST, National Chemical Laboratory, Pune, India, August, 2001**

G. INVITED LECTURES DELIVERED

1. Pt-metal complexes of 1,2,3-Selenadiazoles—a lecture by P. K. Khanna, Royal Society of Chemistry Centenary Lecture and One-day south-west Meeting, University of Bath, England, March, 1991.
2. Nano particles of CdS and CdSe: Synthesis and Characterization Department of Chemistry, IIT, Delhi, India, April, 2001
3. Nanotechnology at C-MET: Prospects and Future, National Nano Technology Initiative of Department of Information Technology, Govt. of India, New Delhi, August, 2002
4. Nano particles of CdS and CdSe via Organometallic Chemistry, Institute of advanced materials, KRICT, Daejeon, S.Korea, January, 2003
5. Synthesis of Quantum dots of Indium Phosphide using Organometallics Institute of advanced materials, KRICT, Daejeon, S.Korea, Feb., 2003
6. Nano particles of II-VI and III-V semiconductors via organometallic chemistry, Pohang Superconductivity Center Pohang Institute of Physics, POSTECH, Pohang, S.Korea, March, 2003
7. Nanoparticles-Synthesis in Polymers, “Half-day Symposium on nano-materials-Recent Happenings”, Organized by Materials Research Society of India (MRSI) Pune chapter, University of Pune, India, August, 2003
8. Physics and Chemistry of Nano particles of Semiconductors, Science College, Jamner affiliated to North Maharashtra University Jalgaon, India, August, 2003
9. Materials chemistry of 1,2,3-selenadiazoles, IXth International conference on the chemistry of selenium and tellurium (ICCST-9), IIT-Bombay, Mumbai, India, February, 2004

10. Cycloalkeno-1,2,3-selenadiazoles: novel source of Se for metal selenide synthesis, Institute of advanced materials, KRICT, Daejeon, S.Korea, March, 2004
11. An effective synthesis of nano crystalline InP from Na₃P, KSIEC Spring Meeting, S.Korea, May 7-8, 2004
12. Organometallic compounds as useful precursors to nanomaterials: The material chemistry aspect of 1,2,3-selenadiazole, Winter School on Smart Materials, MNNIT, Allahabad, India, Dec. 9, 2004
13. Challenges in processing of polymer nanocomposites via organometallics, Winter School on Smart Materials, MNNIT, Allahabad, India, Dec. 9, 2004
14. Synthetic aspects of quantum dots of semiconductors- the challenges for the material scientists, NCBM-2004, Hyderabad, India, Dec. 26-27, 2004
15. Synthesis of nano particles of silver and gold by solution methods, International conference on business opportunities in microsystems and nanotechnology, Pragati Maidan, New Delhi, India Feb. 3-4, 2005
16. Processing and optical properties of semiconductor/polymer nano-composites, International Conference on Advances in Polymer Blends, Composites, IPNS and Gels: Macro to Nano Scales, Kottayam, Kerala, March 21- 23, 2005
17. Challenges in chemical processing of nano-materials, National Conference on Nanotechnology, AMITY, Noida, New Delhi, May 27-28, 2005
18. Nanotechnology and Nano-materials, Central School 9 BRD Air force station Viman Nagar, Pune
19. Chemical synthesis of quantum dots of semiconductors- the challenges for the material scientists, National Symposium and Conference on Solid Chemistry and Allied Areas, Goa University, Goa, December 1-3, 2005
20. Optically tuned nano-crystals of semiconductors and metals, Nanoscience and Nanotechnology, Belarus-India joint seminar, ARCI, Hyderabad, Dec.21-22, 2005.
21. Nanomaterials and Nanotechnology at C-MET-an overview, Taiwan-India joint seminar, University of Hyderabad, Hyderabad, March 14-15, 2006.
22. 'Top-down' method for generation of re-dispersible silver nano-particles, Recent Trends in Nanomaterial Science", B.M. Birla Science Centre, Hyderabad, organized by the Academy for Science, Technology and Communication, Hyderabad, India, 26th August, 2006
23. Large-scale preparation of nanomaterials by solution chemistry, International Conference on nanomaterials for electronics, ICNME-2006, C-MET, Pune, India, Nov. 27-29, 2006.
24. Chemical Processing of Nanomaterials: metals and semiconductors, National workshop on Nanomaterials and Nanotechnology, University of Lucknow & MRSI Lucknow, March 24-25, 2007
25. Is synthesis of quantum dots still challenging ?, ICMAT, Singapore, July, 2007 (did not attend)
26. Chemical processing of Nanomaterials for their applications in electronics, Nano Technology and its Application. Organized by IRMRA (Indian Rubber association) jointly with BARC, 16th and 17th March 2007.
27. Semiconductor quantum dots: Tuning of optical properties, Nano Technology and its Application. Organized by IRMRA (Indian Rubber association) jointly with MITCON, 26th and 27th Sept 2007.
28. New solution methods for synthesis of metal nano-particles for a wide range of applications, BIOVISION 2007, International Symposium on Bioengineering for Environmental Management, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, India, 22-24, October 2007.
29. Green synthesis of surface capped metals nano-particles: The Chemistry and the Nanotechnology, National Conference on Nanomater. & Nanotech., University of Lucknow/MRSI, Lucknow, India, Dec. 8-10, 2007
30. Synthesis of Nano-particles of silver from biologically useful reagents: the Chemistry and the Nanotechnology, International conference on natural polymers, bio-polymers, bio-materials, their composites, blends, IPNS and gels: macro to nano scales-2007, November 19-21, 2007, Institute for macromolecular science and engineering, Parumabikadu PO, Kottayam, Kerala
32. India Synthesis of metal nano-particles and their possible use in pharmacy, Poona College of Pharmacy, Feb.05, 2008
33. Nano-metals and quantum dots in polymers, National Seminar on Role of Nano-Technology in Polymer and Chemical Industries, NMU, JALGAON, 15 March, 2008
34. Nano-metals, Nano-Technology 10⁹: a workshop organized by MIT, Pune 4 April, 2008.
35. Bottom-up Approach to Quantum Dots, 2nd Hu-CARE2008, an International Conference, Hanbat, University, Daejeon, South Korea, Dec 4-5, 2008
36. Processing of nano-metal-polymer composites, 1st International conference on nanostructured materials and nanocomposites (ICNM-2009) April 6-8, 2009, Institute of Macromolecular Science and Engineering (IMSE), MG University, Kottayam, Kerala, India, 686028 (not attended)
37. Bottom-up Approach to metal nanoparticles, SKKU SAINT, Suwan, S.Korea, May 7, 2009
38. Bottom-up approach to metal nanoparticles and their application in biology, Pai-Chai University, Daejeon, S.Korea, May 22, 2009
39. Bottom-up Approach to Quantum Dots, Ewha Womens University, Seoul, South Korea, Sept 10, 2009
40. Bottom-up Approach to Nanomaterials, Shogang University, Seoul, South Korea, August 24, 2009

41. Green Synthesis and Applications of Semiconductor Quantum Dots (QDs) and Magic Sized Nano Crystals (MSNCs): Indo-Russian Workshop on Nanotechnology, IRNANO-2009, National Physical laboratory, New Delhi, Nov. 16-17, 2009
42. Semiconductor Quantum Dots (QDs) and Magic Sized Nano Crystals (MSNCs): A Green Approach, Disha Institute of Management and Technology, December 20, 2009
43. Nanoparticles in polymer matrices, Second Conference on, Recent Advances in Polymer Technology, December 28-29, 2009, NMU, Jalgaon, MH
44. **Synthesis of Metal Nano-particles and Semiconductor Quantum Dots: Nanotechnology via Solution Chemistry, MRSI-AGM Medal Lecture award, Feb 9-11, Ballabh Vidyanagar, Gujrat**
45. Chemically tailored Synthesis of nano-particles and Quantum dots, Department of Chemistry, University of Mumbai, UDCT, National Conference on Synthesis and application of novel materials (NCSANM-2010), March 4-5, 2010.
46. Chemical Synthesis of Metal nano-particles and Quantum dots, National seminar on advanced materials (NSAM-2010) Organized by Dept Physics, Shivaji University, Kolhapur-416 004, Maharashtra (India)
47. Processing of CdSe quantum dots and magic-size nano-crystals by chemical methods by Pawan K. Khanna Invited lecture at International Symposium on "Semiconductor Materials and Devices" (ISSMD-2011)", The M. S. University of Baroda, Vadodara, during January 28 - 30, 2011.
48. Solution Chemistry and Nanotechnology, Invited short lecture at International Symposium on Materials Education (ISME), organized by IISER, NCL, C-MET and DIAT, Pune during 26-28 March, 2011.
49. MITCOE, Pune Foundation day lecture as a chief guest 'Bridging the gap between the private and govt. education insititutes' on Dec. 15th. 2011
50. Synthesis and applications of nanomaterials for defence applications at seminar on Synthesis and Applications of Functional Materials, Department of Physics, National Defence Academy, Pune, Sept. 23, 2011
51. Polymer /Inorganic Nano-composites for defence applications by P. K. Khanna National Conf. on Polymer Science and Nanotechnology, MSU Baroda, 16-17 December 2011
52. *Nano*-CdSe: Quantum dots Vs Magic size nano – crystals by PK khanna, National Workshop on Nanoscience and Nanotechnology, held at MIT College of Engg., Pune, 6-7 Janaury, 2012
53. Nano-composites for defence: Synthesis and applications by P. K. Khanna at FNE-2010-an Indo-Japan meeting on energy materials to be held at Sharda Univeristy, Noida, India, January, 9-11, 2012
54. QDs for white light emission, Int Conf., FANEM 2012, State University of Belarus, Minsk, May 22-25, 2012
55. Quantum dots and their potential application, NANOCON12, Pune, October, 18-19, 2012
56. Nanomaterials for defence applications, PolyTech – 2012: International Conference on Advances in Polymeric Materials and Nanotechnology, NCL, Pune, December 15-17, 2012
57. Quantum Dots : Synthesis and Applications" in National conference on Nanomaterial application and properties" organized by Department of Physics, Arts, Commerce and Science college, Sonai, Ahmednagar, 22 – 23rd Feb, 2013.
58. Quantum dots: Challenges in Synthesis for Photonics at International Conference on Nanoelectronics & Nanodevices, Saveetha University, Chennai, 21-22nd January, 2013.
59. Quantum dots: Chemistry, Materials and Nanotechnology at International Conference on Chemistry and Materials:Prospects and Prospectives-2012, B.R. Ambedkar Central University, Lucknow,14-16 December, 2012
60. Chemistry and applications of Selenadiazoles "Coalescence of Chemical Sciences to Confront the Future Challenges" organized by Royal Society of Chemistry, UK, Western India Chapter, S P College, Pune, February 9-10, 2013.
61. Tailored Semiconductor Quantum dots and magic-size nanocrystals at MAM-12, Coimbatore, Nov.22-23, 2012
62. Quantum dots: Challenges in Synthesis for Photonics at International Conference on Nanoelectronics & Nanodevices during 21-22 January 2013 at Saveetha University, Chennai, India
63. bharti vidyapeeth 2014 nanocon
64. pandharpur 2015
65. Mathura 2015
66. Agra 2015
67. jaipur 2016
68. Ajmer 2016
69. Kanpur 2016