

### **Brief Academic/Administrative Profile of Dr. Anil Kumar, IIT Roorkee**

Name Dr. Anil Kumar  
Designation Professor  
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### **Professional Experience:**

- **Guest Scientist, *Hahn-Meitner-Institut*, Berlin, Germany** (1986-1988), Collaborated with Prof. A. Henglein.
- **Research Associate, *Radiation Laboratory*, Univ. of Notre Dame, Notre Dame, Indiana –46556, USA** (1979-1982), Collaborated mainly with Prof. P.Neta.

### **Academic Administrative Experience:**

- **Professor & Head**, Department of Chemistry (May 2013 to February 2016)  
Indian Institute of Technology Roorkee, Roorkee-247667, Uttarakhand, INDIA.
- **Founder Head**, Centre of Excellence - Nanotechnology (June 2006 to Dec. 2011),  
Indian Institute of Technology Roorkee, Roorkee-247667, Uttarakhand, INDIA.

### **Awards:**

- **Star Performer**, Indian Institute of Technology Roorkee, Roorkee (2003-04, 2004-05).
- **Elected Fellow**, The National Academy of Sciences, Allahabad, India (2003).
- **First Khosla Research Prize and a Medal** on a Research Paper on Photochemical study on surface capped Semiconductor Nanoparticles (2002).
- **Khosla Research Award and a Silver Medal** on a Research Paper on Photochemistry of Semiconductor Nanoparticles (1993).
- **Received Gold Medal** being Topper in M.Sc., S.D. College, Muzaffarnagar (Meerut Univ,) (1973).

## Honors

- The paper, entitled “*Synthesis of Glucose-Mediated Ag- $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> Multifunctional Nanocomposites – A Study of their Catalytic and Antibacterial Activities*” by Mandeep Kaloti, Anil Kumar and N.K. Navani, presented by Mandeep Kaloti won the **Second Best Poster award in International Conference on Advanced Materials for Energy, Environment and Health (ICAM-2016)** held during 04-07<sup>th</sup> March 2016, IIT Roorkee, Roorkee, India.
- Our paper, entitled “*Viscoelastic Properties of Superparamagnetic 5'-Adenosine Monophosphate Mediated Porous  $\beta$ -FeOOH Hydrogel – Its Loading, and Release Capabilities*” by Anil Kumar and Sudhir K. Gupta and presented by Sudhir K. Gupta won the **best poster award in 9<sup>th</sup> India Japan Bilateral Conference (BICON-2014)** on Advanced Material Science and Engineering.
- **Honorable Guest**, 2<sup>nd</sup> International Conference & Exhibition on Materials Science and Engineering, October 07-09, **2013**, Las Vegas, USA.
- Received **Certificate of Appreciation** by **American Chemical Society** for valuable contribution and dedicated service in the Peer Review of manuscripts submitted to ACS Journals (**Dec. 2011**).
- Two of our research papers on ‘Nanotechnology Aspects’ have been listed/selected under the **most accessed papers** in the first quarter in ‘**Langmuir**’(2007) and ‘**Nanotechnology**’ (2009).
- ‘*Synthesis of Fe<sub>2</sub>O<sub>3</sub>/Ag Core Shell Nanocomposites*’ by Anil Kumar and Aditi Singhal and presented by Ms. Aditi Singhal, won the **second poster prize** in “Nanomaterials and Devices Processing and Applications” (**NADPA 2008**).

## Professional Activities:

- ❖ Member (2007 onwards) and Elected Member, American Chemical Society, USA (1982).
- ❖ Member, Mirror Committee on Nanotechnology, Bureau of Indian Standards, New Delhi, 2007 - 2014.
- ❖ Member, Sigma Xi, The Scientific Research Society, USA (1981).
- ❖ Life Member, Indian Society for Radiation and Photochemical Sciences, Mumbai.
- ❖ Life Member, Indian Chemical Society, Kolkata
- ❖ Elected Member, Life Member, Indian Chemical Society, Kolkata.
- ❖ Life Member, Chemical Research Society of India, Bangalore.

## Areas of Academic Interest:

Nanoscale materials, Molecular Spectroscopy, Kinetics and Photochemistry, Radiation Chemistry, Chemical Thermodynamics and General Physical Chemistry.

**Teaching Experience** (Approx. in years): Under Graduate      33 Yrs.  
Post Graduate      34 Yrs.

**Research Interests:**

Synthesis of Nanomaterials – Semiconductor, Metal and Carbon Nanostructures; Photophysics and Photochemistry of Metal/Semiconductor Nanostructures, Photocatalysis, Supercapacitor, Kinetics of Ultrafast Processes; Reactivity of Unusual Oxidation State Species of Silver.

**Research Publications in Journals / Presented in Conferences:**

**Refereed Journals** - 86 (ACS 16, RSC 18, Elsevier 18, Wiley 04, IOP 03, Springer 02, Indian Journals 08, Others 16); **Proceedings/Book Chapters** 04. (**Total Citations** as per Google Scholar Data 1225; **h-index** 19; **i10-index** 35.)

**Book Chapters Contributed – 02:**

- (i). V. Kumar and **Anil Kumar**, **RNA-Mediated CdS-Based Nanostructures**, Luc Ponchon (ed.), *RNA Scaffolds: Methods and Protocols*, Methods in Molecular Biology, **Ch. 16, vol. 1316, P. 195-210 (2015)**.
- (ii). S.P. Srivastava and **Anil Kumar**, **Kinetics and mechanism of Ag<sup>+</sup> - catalysed oxidation of diols with terminal hydroxyl groups by peroxydisulphate ion**, M. Tsutsui (ed.), *Fundamental Research in Homogeneous Catalysis*, Plenum Publishing Co., New York, **Vol. 3, 373-396 (1979)**.

**Conferences/ Workshops/Seminars - 64 (Abstract)**

**Current Research Activities:**

We have been involved in developing a wide range of nanomaterials viz. carbonaceous, semiconductors, metals, and composites of varied dimensionalities, size(s) and shape(s). We have synthesized **a few layer(s) thick N-functionalized and ultra-thin graphene sheets**. Some of these materials are found to be highly conducting with fairly high value of specific capacitance at higher current densities exhibiting potential for **supercapacitor applications**. Among semiconductors, synthesis of nanosized CdS, ZnS, PbS, PbSe, ZnSe, TiO<sub>2</sub>, ZnO, CuO, β-Fe<sub>2</sub>O<sub>3</sub>, γ-Fe<sub>2</sub>O<sub>3</sub>, β-FeOOH, and AgFeO<sub>2</sub> have been carried out. **Their optical, optoelectronic, fluorescence and magnetic, catalytic and biological properties have been analyzed and optimized**. Present investigations are focused on developing composite/biotemplated and integrated nanostructures with enhanced properties.

**Experience as Research Supervisor:**

<b><u>Thesis/Project</u></b>	<b><u>Supervised</u></b>	<b><u>Submitted</u></b>	<b><u>In Progress</u></b>
Ph.D.	17	1	4
M.Phil./M.Tech.	21	-	-
M.Sc.	29	-	-

**Research Project in Progress:**

- (i). Synthesis of Biotemplated Colloidal Nanostructures of Iron Oxide(s) - Analysis of Correlation between their Morphologies and Properties, sanctioned by **CSIR**, New Delhi, **July 2014** – Contd.

**Research Projects Completed:**

- (i) Synthesis of Nanohybrids of Colloidal Semiconductor Oxides – An Analysis of their Charge Dynamics, Electronic and Magnetic Properties, **CSIR**, New Delhi, since **August 2008** – **August 2011**.
- (ii) Synthesis and Photochemistry of Composite Metal Semiconductor Nanostructured Materials, **DST**, New Delhi, **2004** – **2008**.
- (iii) Analysis of Electronic Properties of Nanoclusters of Semiconductors – Development of Semiconductor Based Integrated Photocatalytic Systems, Funded by **DST**, New Delhi, **2001-2005**.
- (iv) Coupled Semiconductors as Catalysts for Initiating Photochemical Reactions - Mechanistic Investigations of their Photochemical and Photophysical Behaviour. Funded by **DST**, New Delhi, **1995-1999**.
- (v) Preparation of Silver (III) Species and its Stable Complexes-A Kinetic Investigation of their Redox and Photoredox Reactivity funded by **CSIR**, New Delhi, **1995-1998**.
- (vi) Optimization of photophysics of Nanosized semiconductors for their Application as Chemical Sensors funded under UGC Scheme, **1993**.
- (vii) Catalytic Action of Semiconductor Microelectrodes in photionduced chemical Reactions funded by **DST**, New Delhi, **1989-1993**.
- (viii) Photo- and Radiation Chemistry of Colloidal Semiconductors, **Hahn Meitner Institut**, Berlin, Germany, **1986-1988**, collaborated with Prof. A. Henglein.
- (ix) Catalytic Role of  $\text{Ag}^+$  in Redox Reactions at **Radiation laboratory**, USA, **1979-82**, collaborated with Prof. P. Neta.

**List of Research Papers Published in the Current Area of Research-Nanotechnology since 2001**

S. No.	Detailed of Published Paper
1.	S. Firdoz and <b>Anil Kumar</b> ZnO nanoparticles and their acarbose-capped nanohybrids as inhibitors for human salivary amylase. <b>IET Nanobiotechnol., doi: 10.1049/iet-nbt.2016.0115 (2016).</b>
2.	M. Kaloti and <b>Anil Kumar</b> Synthesis of Chitosan-Mediated Silver Coated $\gamma$ -Fe <sub>2</sub> O <sub>3</sub> (Ag- $\gamma$ -Fe <sub>2</sub> O <sub>3</sub> @Cs) Superparamagnetic Binary Nanohybrids for Multifunctional Applications <b>J. Phys. Chem. C DOI: 10.1021/acs.jpcc.6b05851 (2016).</b>
3.	M. Khandelwal and <b>Anil Kumar</b> One-pot environmental friendly amino acid mediated synthesis of N-doped graphene-silver nanocomposites with enhanced multifunctional behavior <b>Dalton Trans.,45, 5180-5195 (2016).</b>
4.	M. Khandelwal and <b>Anil Kumar</b> One-step chemically controlled wet synthesis of graphene nanoribbons from graphene oxide for high performance supercapacitor applications <b>J. Mater. Chem. (A), 3, 22975-22988 (2015).</b>
5.	M. Kaloti, <b>Anil Kumar</b> and N.K. Navani Synthesis of glucose-mediated Ag - $\gamma$ -Fe <sub>2</sub> O <sub>3</sub> multifunctional nanocomposites in aqueous medium - a kinetic analysis of their catalytic activity for 4-nitrophenol reduction. <b>Green Chemistry 17, 4786-4799 (2015).</b>
6.	Umesh Kumar Gaur, <b>Anil Kumar</b> and G D Varma Fe-induced morphological transformation of 1-D CuO nanochains to porous nanofibers with enhanced optical, magnetic and ferroelectric properties. <b>J. Mater. Chem. C, 3, 4297- 4307 (2015).</b>
7.	<b>Anil Kumar</b> , B.Singh and K. Gupta Photophysical aspects of varying Zn <sup>2+</sup> / PbSe nanostructures mediated by RNA leading to the formation of honeycomb-like novel porous morphology. <b>J. Phys. Chem. (C), 119, 6314-6323 (2015).</b>

8.	<b>Anil Kumar</b> and S. K. Gupta Supramolecular-directed novel superparamagnetic 5'-adenosine monophosphate templated $\beta$ -FeOOH hydrogel with enhanced multi-functional properties. <b>Green Chemistry</b> , <b>17</b> , 2524–2537 (2015).
9.	<b>Anil Kumar</b> and M. Khandelwal A novel synthesis of ultra thin graphene sheets for energy storage applications using malonic acid as a reducing agent. <b>J. Mater. Chem. (A)</b> , <b>A</b> , <b>2014</b> , <b>2</b> , 20345–20357 (2014).
10.	<b>Anil Kumar</b> and S.K. Gupta 5'-guanosine monophosphate mediated biocompatible porous hydrogel of $\beta$ -FeOOH - Viscoelastic behavior, loading and release capabilities of freeze dried gel. <b>J. Phys. Chem. (B)</b> , <b>118</b> , 10543-10551 (2014).
11.	<b>Anil Kumar</b> and V. Kumar Biotemplated inorganic nanostructures: Supramolecular directed nanosystems of semiconductor(s)/metal(s) mediated by nucleic acids and their properties. <b>Chem. Rev. (ACS)</b> , <b>114</b> , 7044-7078 (2014).
12.	<b>Anil Kumar</b> and M. Khandelwal Amino acid mediated functionalization and reduction of graphene oxide – synthesis and the formation mechanism of nitrogen-doped graphene. <b>New J. Chem.</b> , <b>38</b> , 3457-3467 (2014).
13.	U. K. Gaur, <b>Anil Kumar</b> and G. D. Varma The synthesis of self-assembled 1-D CuO nanochains in aqueous medium and a study of their multifunctional features. <b>CrystEngComm (RSC)</b> , <b>16</b> , 3005–3014 (2014).
14.	<b>Anil Kumar</b> and S.K. Gupta Synthesis of 5'-GMP-mediated porous hydrogel containing $\beta$ -FeOOH nanostructures: optimization of its morphology, optical and magnetic properties. <b>J. Mater. Chem. (B)</b> , <b>1</b> , 5818-5830 (2013).
15.	<b>Anil Kumar</b> and B. Singh Optoelectronic properties of dual emitting RNA mediated colloidal PbSe nanostructures. <b>Dalton Trans.</b> , <b>42</b> , 11455–11464 (2013).
16.	<b>Anil Kumar</b> and S.K. Gupta Synthesis of adenine mediated superparamagnetic colloidal $\beta$ -FeOOH Nanostructure(s) – study of their morphological changes and magnetic behavior. <b>J. Nanopart. Res.</b> <b>15</b> :1466, 1-16 (2013) (DOI 10.1007/s11051-013-1466-z).
17.	<b>Anil Kumar</b> and B. Singh $Zn^{2+}$ induced folding of RNA to produce honeycomb like RNA -mediated fluorescing $Zn^{2+}$ /PbSe nanostructures. <b>J. Phys. Chem. (C)</b> , <b>117</b> , 5386–5396 (2013).
18.	<b>Anil Kumar</b> , V. Chaudhary and Vinit Kumar

	Synthesis of guanosine 5'-monophosphate (GMP) - mediated Ag/CdS nanohybrids – their self assembly and optoelectronic properties. <b>Eur. J. Inorg. Chem.</b> <b>269-279 (2013).</b>
19.	<b>Anil Kumar</b> and B. Singh RNA templated water soluble Mg <sup>2+</sup> / PbSe porous nanostructures with dual Fluorescence. <b>RSC Advances</b> , <b>2</b> , 9079–9090(2012).
20.	<b>Anil Kumar</b> and B. Singh Synthesis and photophysics of red emitting RNA templated PbSe nanostructures. <b>Chem. Commun.</b> , <b>47 (14)</b> , 4144 - 4146 (2011).
21.	<b>Anil Kumar</b> and A. Singhal Optical, photophysical and magnetic behavior of GMP-templated binary ( $\beta$ - Fe <sub>2</sub> O <sub>3</sub> /CdS) and ternary ( $\beta$ -Fe <sub>2</sub> O <sub>3</sub> /Ag/CdS) nanohybrids. <b>J. Mater. Chem.</b> , <b>21</b> , 481-496 (2011).
22.	S. Firdoz, Ma Fang, Xiuli Yue, Zhifei Dai, <b>Anil Kumar</b> , Jiangbin A novel amperometric biosensor based on single walled carbon nanotubes with acetylcholine esterase for the detection of carbaryl pesticide in water. <b>Talanta</b> , <b>83</b> , 269 - 273 (2010).
23.	<b>Anil Kumar</b> and V. Kumar Synthesis and optical properties of Guanosine 5'-monophosphate - mediated CdS nanostructures: An analysis of their structure, morphology and electronic properties. <b>Inorg. Chem.</b> , <b>48</b> , 11032-11038 (2009).
24.	<b>Anil Kumar</b> , A. Jakhmola and V. Chaudhary Synthesis and photophysics of colloidal ZnS/PbS/ZnS nanocomposites - an analysis of dynamics of charge carriers. <b>J. Photochem. Photobiol. A: Chem.</b> <b>208</b> , 195-202 (2009).
25.	<b>Anil Kumar</b> and V. Kumar Supramolecular – directed synthesis of RNA-mediated CdS/ZnS nanotubes. <b>Chem. Commun.</b> , 5433-5435 (2009).
26.	<b>Anil Kumar</b> and A. Singhal Synthesis of colloidal silver iron oxide nanoparticles – study of their optical and magnetic behavior. <b>Nanotechnology</b> , <b>20</b> , 295606-295616 (2009).
27.	<b>Anil Kumar</b> and A. Jakhmola RNA-templated fluorescent Zn/PbS (PbS + Zn <sup>2+</sup> ) supernanostructures. <b>J. Phys. Chem. (C)</b> , <b>113</b> , 9553-9559 (2009).
28.	<b>Anil Kumar</b> and V. Chaudhary Time resolved emission studies of Ag-adenine-templated CdS (Ag/CdS) nanohybrids. <b>Nanotechnology</b> , <b>20</b> , 095703 - 095712 (2009).
29.	<b>Anil Kumar</b> and V. Kumar Self assemblies from RNA-templated colloidal CdS nanostructures. <b>J. Phys. Chem. (C)</b> , <b>112</b> , 3633-3640 (2008).
30.	<b>Anil Kumar</b> and A. Singhal

	Synthesis of colloidal $\beta$ -Fe <sub>2</sub> O <sub>3</sub> nanostructures - influence of addition of Co <sup>2+</sup> on their morphology and magnetic behavior. <b>Nanotechnology, 18, 475703 (2007).</b>
31.	<b>Anil Kumar</b> and V. Chaudhary Optical and photophysical properties of Ag/CdS nanocomposites – an analysis of relaxation of charge carries. <b>J. Photochem. Photobiol. A: Chem. 189, 272-279 (2007).</b>
32.	<b>Anil Kumar</b> and A. Jakhmola RNA – mediated fluorescent Q-PbS nanoparticles. <b>Langmuir (Lett.) 23, 2915-2918 (2007).</b>
33.	<b>Anil Kumar</b> and N. Mathur Photocatalytic degradation of aniline at the interface of TiO <sub>2</sub> suspensions containing carbonate ions. <b>J. Colloid Interface Sci. 300, 244-252 (2006).</b>
34.	<b>Anil Kumar</b> and A. Jakhmola Photophysics and charge dynamics of Q-PbS based mixed ZnS/PbS and PbS/ZnS semiconductor nanoparticles. <b>J. Colloid Interface Sci. 297, 607-617 (2006).</b>
35.	<b>Anil Kumar</b> Physicochemical and photochemical properties of nanoscale semiconductors - dynamics of the charge carriers. <b>Natl. Acad. Sci. Lett, 28, 1-11 (2005). (Published as Lead Article)</b>
36.	<b>Anil Kumar</b> and N. Mathur Photocatalytic oxidation of aniline using Ag <sup>+</sup> -loaded TiO <sub>2</sub> suspensions. <b>Appl. Catal. A: Gen. 275,189-197 (2004).</b>
37.	<b>Anil Kumar</b> and S. Mital Electronic and photocatalytic properties of purine(s)-capped Q-CdS nanoparticles in the presence of tryptophol. <b>J. Mol. Catal. A: Chem. 219, 65-71 (2004).</b>
38.	<b>Anil Kumar</b> and S. Mital Synthesis and photophysics of 6-dimethylaminopurine-capped Q-CdS nanoparticles – astudy of its photocatalytic behavior. <b>Int. J. Photoenerg. 6(2), 61-68 (2004).</b>
39.	<b>Anil Kumar</b> and S. Mital Photophysics and photocatalytic behavior of composite CdS-purine nanoparticles in the presence of certain indoles. <b>J.Colloid Interface Sci. 265, 432-438 (2003).</b>
40.	<b>Anil Kumar</b> and A.K. Jain Photophysics and photocatalytic properties of Ag <sup>+</sup> - doped composite (CdS-TiO <sub>2</sub> ) colloidal semiconductor. <b>J. Photochem. Photobiol. A: Chem. 156, 207-218 (2003).</b>
41.	<b>Anil Kumar</b> and S. Mital Synthesis and photophysics of purine-capped Q-CdSnanocrystallites. <b>Photochem. Photobiol. Sci. 1, 737-741 (2002).</b>
42.	<b>Anil Kumar</b> and S. Mital



	Electronic properties of Q-CdS clusters stabilized by adenine. <b>J.Colloid Interface Sci. 240, 459-466 (2001).</b>
43.	<b>Anil Kumar</b> and D.P.S. Negi Photophysics and photocatalytic properties of Cd(OH) <sub>2</sub> -coated Q-CdS clusters in the presence of guanine and related compounds. <b>J. Colloid Interface Sci. 238, 310-317 (2001).</b>
44.	<b>Anil Kumar</b> and A. K. Jain Photophysics and photochemistry of colloidal CdS-TiO <sub>2</sub> coupled semiconductors - Photocatalytic oxidation of indole. <b>J. Mol. Catal. A: Chem. 165, 267-275 (2001).</b>

**Details of Ph.D. Theses Supervised: 17 Nos.**

S.No.	Name of Student/Supervisor Year of Award	Title of Ph.D. Thesis
1.	Ms. Mahima Khandelwal <b>Supervisor: Dr. Anil Kumar</b> and Dr. R. Nath 2016-2017	Study on Chemical Reduction of Graphene Oxide into Graphene – their Physicochemical Behavior
2.	Mr. Umesh Kumar Gaur <b>Supervisor: Dr. G.D. Varma</b> and <b>Dr. Anil Kumar</b> 2016-2017	Synthesis of Pure and Doped CuO Nanostructures and their Multifunctional Properties
3.	Dr. Sudhir Kumar Gupta <b>Supervisor: Dr. Anil Kumar</b> 2014-2015	Synthesis and Physicochemical Properties of Biotemplated $\beta$ -FeOOH Nanostructures
4.	Dr. Bhupender Singh <b>Supervisor: Dr. Anil Kumar</b> 2013-2014	Synthesis and Photophysics of RNA-Mediated Colloidal PbSe Nanostructures.
5.	Dr. Aditi Singhal <b>Supervisor: Dr. Anil Kumar</b> 2010-2011	Synthesis of $\beta$ – Fe <sub>2</sub> O <sub>3</sub> Based Nanostructures - Study of their optical and Magnetic Properties
6.	Dr. Vinit Kumar <b>Supervisor: Dr. Anil Kumar</b> 2010-2011	Synthesis, Optical and Electronic Properties of RNA – Mediated Colloidal CdS Nanostructures
7.	Dr. Vidhi Chaudhary <b>Supervisor: Dr. Anil Kumar</b> 2009-2010	Synthesis of Ag/CdS Nanocomposites-An Analysis of their Optical and Photophysical Behavior
8.	Dr. Anshuman Jakhmiola <b>Supervisor: Dr. Anil Kumar</b> 2007-2008	Synthesis and photophysics of Q-PbS based colloidal nanostructures

9.	Dr. Nupur Mathur <b>Supervisor: Dr. Anil Kumar</b> 2005-2006	Photocatalytic Action of Certain Anilines Mediated by Aqueous TiO <sub>2</sub> Suspensions
10.	Dr. Shipra Mital <b>Supervisor: Dr. Anil Kumar</b> 2003-2004	Synthesis, Photophysics and Photocatalytic Action of Surface-Capped Q-CdS Particles
11.	Dr. Priyanka Gupta <b>Supervisor: Dr. R. N. Goyal and Dr. Anil Kumar</b> 2001-2002	Oxidation Chemistry of Some Biologically Important N-Heterocyclic Compounds
12.	Dr. Vaishali <b>Supervisor: Dr. Anil Kumar</b> 2001-2002	Kinetics of Oxidation of Some Amines, Aminoalcohols and diols by diperiodatoargentate (III)
13.	Dr. Arvind Kumar Jain <b>Supervisor: Dr. Anil Kumar</b> 2001-2002	Photophysics and Photocatalytic Behavior of Q-CdS-TiO <sub>2</sub> in the Presence of Certain Aromatics
14.	Dr. Paresh Kumar <b>Supervisor: Dr. Anil Kumar and Dr. R.D. Kaushik</b> 1998-1999	Kinetics and Mechanism of Oxidation of Certain Amino Acids by bis (periodato) argentite (III)
15.	Dr. Devendra Pal Singh Negi <b>Supervisor: Dr. Anil Kumar</b> 1995-1996	Photophysical and Photocatalytic Behaviors of Q-CdS in the Presence of Some Heterocycles
16.	Dr. Sanjay Kumar <b>Supervisor: Dr. Anil Kumar</b> 1995-1996	Photoluminescence of Colloidal Cadmium Sulphide Particles in the Presence of Certain Anilines and Indoles – Study of CdS Sensitized Photocatalytic Reactions
17.	Dr. Ashok Panwar <b>Supervisor: Dr. Anil Kumar</b> 1993-1994	Preparation of Tetrahydroxoargentate (III) ion and Study of Its Reactions with Certain Aromatic Amines

#### **Other Academic Activities:**

- ❖ **Presented an invited talk on**, “Chemical Strategies for Synthesis of Green Nanomaterials – Chemistry and Future Scope of Iron Oxide/Oxyhydroxide Based Nanostructures” in EMN Guangzhou Meeting-Energy Materials and Nanotechnology held at Guangzhou, China during December 3-6, 2015.
- ❖ **Delivered the plenary lecture on**, ‘Synthesis of Advanced Materials following Wet Chemical Route(s)’ **in 9<sup>th</sup> India Japan Bilateral Conference (BICON-2014)** on Advanced Material Science and Engineering, held at Jaipur during October 12-17, 2014.

- ❖ **Presented an invited talk** on, ‘Biotemplated Semiconductor/ Metal Nanostructures - their Characteristic Features and Future Prospects’ **held during October 07 -09, 2013 at Las Vegas, USA on October 08, 2013** in 2<sup>nd</sup> International Conference and Exhibition on Materials Science and Engineering. **Also presented a talk as Honorable Guest on “Emphasis on Interdisciplinary Science & Technological Shift, Contributing to the Development of New Materials” on 07<sup>th</sup> October 2013.**
- ❖ **Member**, Board of Postgraduate Studies & Research, Deshbandhu Chhotu Ram University of Science & Technology, Murthal (Sonapat), Haryana, 2011-13.
- ❖ **Member**, Board of Studies, M.Tech. Program in Nanoscience and Nanotechnology, Dept. of Physics, Pondicherry University, Pondicherry, March 2010.
- ❖ **Chaired the Inaugural Session.** Indo-French Workshop cum International Conference on Nanoscience & Nanotechnology, held at Ansal Institute of Technology, Gurgaon during **October 12-16, 2009.**
- ❖ **Chaired a Scientific Session** on ‘Applications of Catalysts in Industry’ in an International Symposium on Ostwald’s 100 Years of Catalysis in Chemical Research, Allahabad Agricultural Institute, Allahabad held during Nov. 03 – 04, 2009.
- ❖ **Member of the Editing and Reviewing Team**, Nanomaterials and Devices Processing and Applications (NADPA 2008), Trans Tech Publications Inc., USA.
- ❖ **Introduced M.Tech. Course on ‘Nanotechnology’** as Head, Centre of Nanotechnology, Indian Institute of Roorkee, Roorkee, 2008.
- ❖ **Member**, National Advisory Committee, Trombay Symposium on Radiation and Photochemistry (TSRP-2006; TSRP-2010, TSRP-2016), BARC, Mumbai.
- ❖ **Member**, National Organizing Committee, Recent Trends in Photochemical Science Trivandrum, January 8-10, 2001.
- ❖ **Member**, Organizing Committee of the Conference, Recent Trends in Industrial Methods of Analysis, Roorkee, September, 1997.
- ❖ **Delivered invited talks and made oral presentations** in various other premier institutions of India and Abroad and **Chaired several scientific sessions.**

#### **Conference(s) Organized:**

- **Convener**, International Conference on, “Advanced Materials for Energy, Environment and Health”, **Indian Institute of Technology Roorkee**, Roorkee, **March 04-07, 2016.**

- **Co-Chairman**, International Conference on, “Nanomaterials and Devices Processing and Applications” (NADPA 2008), **Indian Institute of Technology Roorkee**, Roorkee, **December 11-13, 2008**.
- **Convener**, Local Organizing Committee and Member, National Organizing Committee, National Symposium on Radiation and Photochemistry, ISRAPS, **Univ. of Roorkee**, **Roorkee**, **February 21-23, 2001**.

**Other Administrative Experience for Different Institute Activities:**

- **Chairman**, Institute Technical Committee, IIT Roorkee, 2016 – contd.
- **Vice-President**, A.B.N. Senior Secondary School, IIT Roorkee Campus, 2012-2015 (. 03 Years)
- **Member**, Professorial Committee, Metallurgical and Materials Engineering Department, 2013-2014; Institute Instrumentation Centre, 2008-2012.
- **Chief Advisor**, Students Club, 2006–2009.
- **Member**, Strategic Planning Group, IIT Roorkee 2004-2006.
- **Convener**, Purchase & Finance Committee, Central Library, IIT Roorkee during 2004-2006.
- **Member**, Library Advisory Committee, 2004-2006.
- **Chief Advisor**, THOMSO, 2004.
- **Advisor**, Alaknanda Club, IIT Roorkee during 2002-2006.
- **Chief Warden**, Ganga Bhawan, IIT Roorkee during 2002-2006.

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