


Dr. Ayush Khare

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Educational Qualifications

S. No	Degree	University/Board	Year of passing	Division
1	High School	M.P. Board, Bhopal	1992	I
2	Higher Secondary	M.P. Board, Bhopal	1994	I
3	B. Sc. (PCM)	Dr. Hari Singh Gour University, Sagar (M. P.)	1997	I
4	M. Sc. (Physics)	Pt. R. S. University, Raipur (C.G.)	1999	I
5	Ph. D. (Solid State Physics)	Pt. R. S. University, Raipur (C.G.)	2006	-
Ph. D. title: Electroluminescence In Some Chemically Deposited Films				

Work and Research Experience

- ▶ Teaching experience – 13 years, Research experience – 07 years
- ▶ Worked as Reader and Head of Department of Physics at Raipur Institute of Technology (RITEE) (www.rit.edu.in), Raipur during July 2000 - July 2008. Joined NIT Raipur in July-2008.
- ▶ Pursued Ph. D. from School of Studies in Physics, Pt. Ravishankar Shukla University, Raipur (C.G.) under the supervision of **Dr. Shashi Bhushan**, Retd. Professor and Head,

School of Studies in Physics and Dean, Faculty of Science. The title of thesis was “**Electroluminescence in Some Chemically Deposited Films**” (2002-2006).

► Areas of interest include electro-optical and structural studies of nano phosphors.

Research Papers Published in International Journals

(i) **Ayush Khare** and Shashi Bhushan, Electroluminescent Studies of Chemically Deposited (Zn-Cd)S:Cu, F Films; **Crystal Research and Technology** 41 (7) (2006) 689-697 (Wiley Publications).

(ii) **A. Khare** and S. Bhushan, Effects of KI/LiF/CdCl₂ on Photoluminescent and Electroluminescent Properties of Nanocrystalline (Zn-Cd)S: Cu Films; **Radiation Effects and Defects in Solids** 161 (11) (2006) 631-644 (Taylor and Francis Publications).

(iii) **Ayush Khare**, Characterization of Chemically Deposited (Zn-Cd)S: Cu Nanocrystalline Films; **Journal of Optoelectronics and Advanced Materials** 11 (11) (2009) 1805-1809 (Forum of Chalcogeniders).

(iv) **Ayush Khare**, Effects of the Zn Concentration on Electro-Optical Properties of Zn_xCd_{1-x}S Films; **Chalcogenide Letters** 6 (12) (2009) 661-671 (Forum of Chalcogeniders).

(v) **Ayush Khare**, Effects of Copper Concentration on Electro – optical and Structural Properties of Chemically Deposited Nanosized (Zn-Cd)S: Cu films; **Journal of Luminescence** 130 (7) (2010) 1268-1274 (Elsevier Publication).

(vi) T. Abdul Kareem, A. Anu Kaliani and **Ayush Khare**, Characterization of Mn doped ZnS Nanocrystalline Powder Dispersed in Polyvinyl Alcohol, **Arabian Journal of Chemistry** (2010, in press) (Elsevier Publication).

(vii) Smriti Agrawal and **Ayush Khare**, Effect of La on Optical and Structural of CdS- Se Films; **Arabian Journal of Chemistry** (2011, in press) (Elsevier Publication).

(viii) **Ayush Khare**, D. S. Kshatri and R. B. Sahu, Structural and Optical Properties of Chemically Deposited Nanocrystalline CdS Films, **Journal of Ovonic Research** 7 (2) (2011) 36-43 (Forum of Chalcogeniders).

(ix) **Ayush Khare** and R. B. Sahu, Optical and Structural Properties of Nanocrystalline CdS Thin Films Grown by Chemical Bath Deposition, **Advanced Materials Research** 364 (2012) 65-69 (Trans Tech Publications).

(x) **Ayush Khare**, Factors Affecting the Electro - optical and Structural Characteristics of Nanocrystalline $Zn_{1-x}Cd_xS$ Films, **Journal of Physics and Chemistry of Solids** 73 (7) (2012) 839-845 (Elsevier Publication).

(xi) **Ayush Khare**, R. B. Sahu and Suchinder K. Sharma, Effects of NaF on Optical and Structural Properties of $Cd_xZn_{1-x}S$ Nano Crystalline Films, **Optik-International Journal of Light and Electron Optics** 123 (2012) 1133-37 (Elsevier Publication).

(xii) D. S. Kshatri, **Ayush Khare** and Piyush Jha, Effects of Dy concentration on luminescent properties of $SrAl_2O_4: Eu$ phosphors" **Optik: Intl. Journal of Light and Electron Optics** (submitted in May-2012).

Research Papers Published in National Journals

(i) **Ayush Khare**, D.S. Kshatri and S.K. Sharma, Characterization and Optical Properties of Eu and Dy Doped $SrAl_2O_4$ Phosphors, **Journal of International Academy of Physical Sciences**, 15 (2012) 1-6.

Research Papers Published in National/ International Seminars/ Conferences

(i) S. Bhushan and **Ayush Khare**, National Seminar on Luminescence and its Applications (**NSLA-2003**), NPL, New Delhi, Feb. 12-14, 2003 p.220.

(ii) **Ayush Khare** and S. Bhushan, International Conference on Luminescence and its Applications (**ICLA-2004**), BARC, Mumbai, Feb. 09-12, 2004 p.362.

(iii) S. Bhushan, S. Shrivastava, T. Chandra, **A. Khare**, M. Mukherjee, Fourth International Conference on Inorganic Materials, Antwerp University, Belgium, Sept. 19-21, 2004 p.106.

(iv) **Ayush Khare** and S. Bhushan, National Seminar on Luminescence and its Applications (**NSLA-2005**), Bangalore University, Bangalore, Feb. 02-04, 2005 p.386.

(v) **Ayush Khare** and S. Bhushan, International Conference on Optics and Optoelectronics (**ICOL-2005**), IRDE, Dehradun, Dec. 12-15, 2005 p.452.

- (vi) **Ayush Khare** and S. Bhushan, National Seminar on Luminescence and its Applications (**NSLA-2006**), Amravati University, Feb. 7-9, 2006 p.127.
- (vii) **Ayush Khare** and S. Bhushan, International Workshop on Advances Materials and Technologies for Nano and Oxide Electronics (**AMTNOE-2007**), IIT, Delhi, Feb. 19-22, 2007 p.61.
- (viii) **Ayush Khare** and S. Bhushan, National Conference on Physics of Nano Structured Functional Materials (**BITCON-2007**), **BIT, Durg**, March 16-17, 2007 p.37.
- (ix) Shashi Bhushan and **Ayush Khare**, 2nd International Conference on Optics and Laser Applications (**ICOLA-2007**), University of Indonesia, September 5-7, 2007 p.60.
- (x) **Ayush Khare**, 1st International Conference on Trends In Optics and Photonics (**IConTOP-2009**), University of Calcutta, Kolkata March 1-4, 2009, p. 73.
- (xi) **Ayush Khare** and S. K. Pandey, Photoluminescent Studies of Nano Crystalline Thin Films Prepared by Chemical Bath Deposition Technique; Proceedings Paper Vol. 7743 77430A (2010) **SPIE Digital Library**.
- (xii) **Ayush Khare**, D. S. Kshatri and R. B. Sahu, International Conference Fundamentals and Applications of Nano Science and Technology (**ICFANT-2010**), Jadavpur University, Kolkata, December 9-11, 2010 p.145.
- (xiii) **Ayush Khare** and D. S. Kshatri, Abstract Book of International Conference on Functional Polymers organized by NIT Calicut during January 28-30, 2011.
- (xiv) **Ayush Khare** and R. B. Sahu, International Conference for Nano Materials Synthesis and Characterization (**INSC-2011**) organized by The X-ray Application Society of **Malaysia**, July 4-5, 2011 p.68.
- (xv) National Conference on Recent Trends in Physics of Solids organized by Department of Physics, **Govt. VYTPG Autonomous College, Durg** during October 11-12, 2011 p.57.
- (xvi) D. S. Kshatri and **Ayush Khare**, International Conference on Nanomaterials and Technology (**ICNANO-2011**) organized by **Delhi University, Delhi** during December 18-21, 2011 p.117.

Research Papers Presented in National/ International Seminars/ Conferences

S. No.	Month & Year	Name of Event	Organizer
1	28 Feb.-01 March, 2005	3 rd Chhattisgarh Young Scientists Congress (CYSC-2005)	Pt. R. S. University, Raipur, India
2	19 th April, 2005	National Science Day Celebrations (NSD 05)	SSCET, Bhilai
3	28 Feb.-01 March, 2006	4 th Chhattisgarh Young Scientists Congress (CYSC-2006)	IGKV, Raipur
4	February 6-7, 2009	National Conference on Need of Value Education in Engineering	SRI-Tech, Raipur
5	January 22- 24, 2010	All India Conference on Engineering and Sciences (AICON'10)	CSIT, Durg
6	June 14-16, 2011	13 th Conference of International Academy of Physical Sciences (CONIAPS)	University of Petroleum and Energy Studies, Dehradun

► Research paper entitled “**Opto-electronic Properties of Electroluminescent Zn_xCd_{1-x}S Nanocrystals in Polymers**” was accepted for presentation in 6th International ECNP Conference on Nanostructured Polymers and Nanocomposites held in **Madrid, Spain** during April 28-30, 2010.

► Research paper entitled “**Structural and Optical Properties of Chemically Deposited CdS Nanocrystalline Films**” was accepted for presentation in 7th International Conference on Inorganic Materials organized by **ELSEVIER** in **Biarritz, France** during September 12-14, 2010.

► Research paper entitled "**Effects of Sm and Pr on Electro-optical and Structural Characteristics of Cd_xZn_{1-x}: Na Films**" is accepted for presentation in International Conference on Applied Physics and Materials Science (APMS 2012) to be organized by **ELSEVIER** in **Dalian, China** during October 5-6, 2012.

Training Programmes/Workshops/Schools Attended

- (i) Faculty Development Programme on "**Innovation in Physics Practical**" held at IPS Academy, Indore in February - 2002.
- (ii) Workshop on "**Education Psychology**" organized by Chhatrapati Shivaji Institute of Technology (CSIT), Durg in July - 2005.
- (iii) National Workshop on **Physics and Applications of Luminescence to Nano-Science, Radiation Dosimetry and Geology (NWPAL-2009)**, organized by Shri Shankaracharya College of Engg. and Technology (SSCET), Bilai in association with Luminescence Society of India in December – 2009.
- (iv) National Workshop of Utsahi Physics Teachers (**NWUPT-2010**) organized by National Academy of Science India (NASI) at **Department of Physics, IIT, Kanpur** during May 20-25, 2010.
- (v) National Workshop on Advanced Materials and Technology (**NWAMT-2011**) organized by Institute of Technology and Research (**ITER**), **Bhubneshwar** during April 22-23, 2011.
- (vi) International Workshop for Nano Materials Synthesis and Characterization organized by The **X-ray Application Society of Malaysia** during July 6-7, 2011.
- (vii) National Workshop on Nanoscience and Nanotechnology (**NWNSNT-2012**) organized by Christian College of Engg. and Technology, Bilai on March 12, 2012.
- (viii) Attended one day Training Programme on **TRANSIT OF VENUS** organized by Chhattisgarh Council of Science and Technology (CCOST) on June 1st, 2012.

Short Term Course organized/attended

1. Worked as Co-coordinator in organizing **Short Term Course** on **RECENT TRENDS IN MATERIAL SCIENCE** during December 27 - 31, 2008 at NIT, Raipur (C.G.).

2. Attended QIP Short Term Course on **Emerging Trends in Carbon Nanotubes** organized by Department of Mechanical Engg. and Material Science, IIT Kanpur during November 7-11, 2011.

Foreign Visits

1. Visited Yogyakarta, Indonesia in September 2007 to present research paper entitled “Electro-Optical Studies of Chemically Deposited Zn_xCd_{1-x} Nano Crystalline Films” in 2nd International Conference on Optics and Laser applications (**ICOLA-2007**) organized by **University of Indonesia**.
2. Visited Selangor, Malaysia in July 2011 to present research paper entitled “Optical and Structural Properties of Nanocrystalline CdS Thin Films Grown by Chemical Bath Deposition” in International Conference and Workshop for Nano Materials Synthesis and Characterization (**INSC-2011**) organized by The **X-ray Application society of Malaysia**.

Professional Affiliations

- (i) Life Member, Indian Physics Association (**IPA**), Mumbai (GEN/LM/12699)
- (ii) Life Member, Indian Society for Technical Association (**ISTE**), New Delhi (LM 64623)
- (iii) Life Member, Indian Association of Physics Teachers (**IAPT**), Kanpur (8243 L 4822)
Member of Executive Council of **IAPT** (Jan. 2010 - Dec. 2012)
- (iv) Life Member, Optical Society of India (**OSI**), Kolkata (L.554)
- (v) Member, American Nano Society (**ANS**)
- (vi) Life Member, International Academy of Physical Sciences (**IAPS**), Allahabaad (N11159)
- (vii) Life Member, Materials Research Society of India (**MRSI**), Bangalore (LMB 2025)
- (viii) Annual Member, Forum of Scientists and Technologists (**FOST**), Raipur
- (ix) Member, Executive Council, Faculty Association, NIT Raipur

Awards and Recognition

- (i) Was selected as the President of Post Graduate Physics Association at Govt. P.G. College, Jagdalpur during 1998-99.
- (ii) Secured 1st rank in M. Sc. (Physics) in 1999.
- (iii) Stood 2nd in “Physics and Electronic Science” section of 3rd Chhattisgarh Young Scientist Congress (CYSC-05) held at Pt. Ravishankar Shukla University, Raipur
- (iv) Won 2nd runner-up prize in paper presentation in National Science Day celebrations held at **SSCET, Bilai** in April-2005.
- (v) Won 1st prize in Essay writing competition (in hindi) held during observation of “**Hindi Pakhwada-2010**” at NIT, Raipur.

Reviewer/ Board Member

- (i) Member, Editorial Board, American Journal of Condensed Matter Physics
- (ii) Reviewer, Advances in Applied Research, Coimbotore, India
- (iii) Reviewer, International Journal of Physical Sciences, China
- (iv) Project Reviewer, Croatian Science Foundation, Croatia

Ph. D. Supervision

- Name of Research Scholars:** (i) Mr. Dharendra Singh Kshatri,SSIPMT, Raipur (Part Time)
(ii) Mrs. Shubhra Mishra, SSIPMT, Raipur (Part Time)
(iii) Mrs. B. Nag Bhargavi, RCET, Raipur (Part Time)

Visiting Lectureship

Visited Faculty of Agricultural Engineering, Indira Gandhi Krishi Vishwavidyalaya, Raipur for teaching Physics-1 (EPH-111 & EPH-121) to B. Tech. (Agril. Engg.) students of BRSM College Agricultural Engineering and Technology in the academic session 2007-08.

Expert Lecture/Talk

1. On **Analysis on value Education** at SRI-Tech, Raipur during February 6-7, 2009.
2. On **Electroluminescence-A Review** at CSIT, Durg during January 22-24, 2010.

Academic/ Administrative Responsibilities @ NITRR

- a. Warden, Boys Hostel - C (Tirathgarh)
- b. In-charge, Dept. Library
- c. Member, Library Committee
- d. One of the Founder Members, RAAGA-The Music Club
- e. Member, Literary Committee
- f.

Others

- (i) **Subject Expert** in interviews conducted by Directorate, Technical Education, Govt. of Chhattisgarh
- (ii) **Member**, National Advisory Committee, National Conference on Laser and Optical Science held at Dibrugarh, Assam
- (iii) Subject expert for **Central Board of Secondary Education (CBSE)**, New Delhi
- (iv) Worked as Coordinator in organizing **Blood Donation Camp by Red Cross Society**, Raipur in Raipur Institute of Technology, Raipur in the year 2007 and 2008.
- (iv) **Chief Editor**, Nanhi Duniya (the first nano science magazine for school students) For details visit: www.nanhiduniyaa.blogspot.com
- (v) Member, Board of Studies of Physics, **MATS University, Raipur**
- (vi) One article entitled "Takneeki Shiksha Evam Neitik Moolya" is published in **SHIKSHAYAN**, the annual Hindi magazine of Rajbhasha Unit of **MHRD, New Delhi**.
- (vi) Visited many schools/institutes as **Judge** for Science Exhibition, Model competition, science talks etc.