

# Cluster Innovation Centre



...Evolving Senses  
Dissolving Boundaries...

संकुल  
नवप्रवर्तन  
केंद्र

## Faculty Performa

Title	Prof.	First Name	PANKAJ	Last Name	TYAGI	Photograph
Designation	<b>PROFESSOR</b>					
Address	<b>Coordinator, M.Sc. (Mathematics Education) Cluster Innovation Centre Rugby Sevens Building, University Stadium University of Delhi, Delhi-110054</b>  <b>Residence: N-13, RIVIERA APARTMENT, MALL ROAD, DELHI -110054</b>					
Phone No Office	<b>011-27666702</b>					
Residence	<b>011-65715570</b>					
	Mobile	<b>9810726750</b>				
Email	<b>pankajtyagicicdu@gmail.com pankajtyagi@cic.du.ac.in</b>					
Web-Page	<b>https://ducic.ac.in</b>					
<b>Educational Qualifications</b>						
Degree	Institution				Year	
Ph.D.	<b>Department of Physics &amp; Astrophysics University of Delhi</b>				<b>2002</b>	
PG M.Sc. (Physics with Electronics)	<b>Department of Physics &amp; Astrophysics University of Delhi</b>				<b>1993</b>	
UG B.Sc. (Hons) Physics	<b>Hans Raj College University of Delhi</b>				<b>1991</b>	
<b>Career Profile</b>						
<ul style="list-style-type: none"> <li>Working as Professor at Cluster Innovation Centre (CIC), University of Delhi, Delhi – 110007 since 12 March 2015.</li> <li>On deputation, worked as Associate Professor in Physics &amp; Electronics at Cluster Innovation Centre (CIC), University of Delhi, Delhi – 110007 since 4<sup>th</sup> July 2012 till 11 March 2015.</li> <li>On deputation, worked as Fellow in Physics at Institute of Lifelong Learning (ILLL), University of Delhi, Delhi – 110007 from 13<sup>th</sup> Jan 2012 till 3<sup>rd</sup> July 2012.</li> <li>Worked as teaching faculty in Acharya Narendra Dev College (ANDC), University of Delhi, Delhi from 17<sup>th</sup> July 1995 till 12<sup>th</sup> Jan 2012.</li> </ul>						

## Administrative & other Academic Assignments

### At University level

1. Presently working as Coordinator, “M. Sc. (Mathematics Education)”  
Meta University Concept based two-years degree programme jointly started by the University of Delhi and Jamia Millia Islamia at the Cluster Innovation Centre, DU since 11<sup>th</sup> October 2012.
2. Member of the Organizing Committee University of Delhi’s Cultural & Academic Program “Antardhvani” 2015, 2014, 2013
3. Participated and acted as Coach Coordinator in “Gyanodaya Express III: An Educational Train Journey of University of Delhi” from 02-08 September 2013.
4. Resource Person in the Workshops on Foundation Course “Building Mathematical Ability” (Five Cycles: 15 days: May-July 2013) .
5. Resource Person in the Workshops on Foundation Course “Information Technology” (Five Cycles: 15 days: May-July 2013) .
6. Nominated Member of Empowered Committee for framing curriculum/syllabus of three Foundation Courses under FYUP: Information Technology, Building Mathematical Ability and Science & Life, 2013.
7. Observer for DUSU Polls 2013, 2012.
8. Fellow in Physics & Academic Secretary, at Institute of Lifelong Learning (ILL), University of Delhi From Jan 2012 till July 2012.
9. Acted as Co-convener in organizing “International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials ” (ICWNCN-2012), March 13-16<sup>th</sup> , 2012 by Department of Physics & Astrophysics, University of Delhi, Delhi, India .
10. Acted as Convener in a 3-Week Refresher Course in the subject “*Physics & Electronics*” conducted by CPDHE, University of Delhi, Delhi-110007, From December 23, 2010 to January 13, 2011.
11. Appointed as an Observer, for conducting FMS-MBA-2011 Examination, University of Delhi, Delhi-110007
12. Acted as Co-coordinator in a 3-Week Refresher Course in the subject “*Physics & Electronics*” conducted by CPDHE, University of Delhi, Delhi-110007, From December 01 to December 22, 2008.
13. Delhi University Annual Examination Tabulation –2006-2011

### **In Acharya Narendra Dev College (1995-2012)**

1. Member of Administrative Affair Committee - 2011
2. Member of Annual Events' Management Committee 2010-11
3. Member of Professional Development & Faculty Enrichment Committee 2010-11
4. Convener, College Canteen Committee 2008-10
5. Member of Garden Committee 2008-10
6. Convener ANDC Alumni Association 2006-08
7. Member, Spicmacay Society 2006-08
8. Superintendent of Physics practical Examination 2003-06.
9. Convener of Workload and Timetable Committee – 2005-06
10. Secretary of Staff Council – 2004-06
11. Teacher-in-charge for the academic session – 2004-06
12. Member of Proctorial Committee – 2004-06
13. Member of Internal Assessment Committee of College – 2004-06
14. Presiding officer to elect College Complaint Committee (CCC) for Sexual Harassments–2004-06
15. Member of Workload and Timetable Committee – 2002-04
16. Member of Asset Management Committee – 2002-04
17. Teacher-in-charge for the academic session – 1998-99
18. Member of Sports Committee – 1996-98

### **Areas of Interest / Specialization**

- Innovation
- Thin films
- Optics
- Optical properties
- Thermal Physics
- Electronics

### **Subjects Taught**

- Deconstructing Machines
- Mechanics
- Thermal Physics
- Optics
- Modern Physics
- Electricity & Magnetism
- Electronic Devices
- Waves & Oscillation
- Digital Electronics
- Quantum mechanics
- Atomic and Molecular Physics
- Solid State Physics
- Nuclear and Particle Physics
- Physics & Electronics Practical

## Publications Profile

### PAPERS PUBLISHED IN INTERNATIONAL/NATIONAL JOURNALS

1. "Effects of in-situ heat-treatment on residual stress dependent optical properties of ZnI<sub>2</sub> thin films" **Indian Journal of Science and Technology**, Vol 9(3), DOI: 10.17485 /ijst/2016/v9i3 /80489, January 2016  
Author: **Pankaj Tyagi**
2. "Development of Target-Group Specific Innovative Android-Based Mathematics Educational Modules" **DU Journal of Undergraduate Research and Innovation** (2015)  
Publishers: University of Delhi, India  
Authors: Shikhar Sharma , Raghavendra Tripathi, **Pankaj Tyagi**
3. "Revival and Innovations in Mathematics Pedagogy: A Case Study" **International Journal of Innovative Trends in Engineering**, Volume- 01, Number-01, 13-16, (2014)  
Publishers: Foundation of Modern Research, India  
Authors: Jyoti Sharma and **Pankaj Tyagi**
4. "Dependence of optical band gap on residual stress in group IIB iodide (ZnI<sub>2</sub>, CdI<sub>2</sub>, HgI<sub>2</sub>) Films" **Integrated Ferroelectrics**, **122:1**, 52 -62 (2010)  
Publisher: Taylor and Francis  
Authors: **Pankaj Tyagi**, R K Misra , N.C.Mehra & A.G. Vedeshwar
5. "Excitonic absorption in ZnI<sub>2</sub> films" **Journal of Applied Physics** **100** 083522(1-6) (2006),  
Publisher: American Institute of Physics  
Authors: A. G. Vedeshwar and **Pankaj Tyagi**
6. "Occurrence of hysteresis-like behavior of Sb<sub>2</sub>Te<sub>3</sub> film in dynamical measurement of heating-cooling cycle" **Physica B** **362** 158-166 (2005),  
Publisher: Elsevier  
Authors: P. Arun, **Pankaj Tyagi** and A. G.Vedeshwar
7. "Effect of residual stress on the optical properties of CdI<sub>2</sub> films", **Physical Review B**, **66**, 075422 (1-8) (2002)  
Publisher: The American Physical Society  
Authors: **Pankaj Tyagi** and A. G. Vedeshwar
8. "Residual stress dependent optical properties of ZnI<sub>2</sub> films" **Physica Status Solidi (a)**, **191**, 633-642 (2002),  
Publisher: Wiley-VCH, Berlin  
Authors: **Pankaj Tyagi** and A. G. Vedeshwar
9. "Grain size dependent optical properties of CdI<sub>2</sub> films", **The European Physical Journal of**

**Applied Physics, 19**, 3-13 (2002)

Publisher: EDP Sciences

Authors: **Pankaj Tyagi** and A. G. Vedeshwar

10. “*Large grain size dependence of the resistance of polycrystalline films*” **Physica B 322**, 289-296 (2002)

Publisher: Elsevier

Authors: P. Arun, **Pankaj Tyagi** and A. G. Vedeshwar

11. “*Anisotropic optical band gap of (102) - and (002) - oriented films of red HgI<sub>2</sub>*”, **Physical Review B 63**, 245315 (1-6) (2001),

Publisher: The American Physical Society

Authors: **Pankaj Tyagi** and A. G. Vedeshwar

12. “*Thickness dependent optical properties of CdI<sub>2</sub> films*”, **Physica B 304**, 166-174, (2001),

Publisher: Elsevier

Authors: **Pankaj Tyagi**, A. G. Vedeshwar and N. C. Mehra

13. “*Grain size dependent optical band gap of CdI<sub>2</sub> films*”, **Bull. Mater. Sci. 24(3)**, 297-300 (2001),

Publisher: Indian Academy of Sciences

Author: **Pankaj Tyagi** and A. G. Vedeshwar

14. “*Optical properties of ZnI<sub>2</sub> films*”, **Physical Review B 64**, 245406(1-7) (2001),

Publisher: The American Physical Society.

Authors: **Pankaj Tyagi** and A. G. Vedeshwar

15. “*Aging effects of Sb<sub>2</sub>Te<sub>3</sub> thin films*” **Physica B 307**, 105-110 (2001),

Publisher: Elsevier

Authors: P. Arun, **Pankaj Tyagi**, A. G. Vedeshwar and Vinod Kumar Paliwal

## **II. PAPERS PUBLISHED IN NATIONAL/INTERNATIONAL CONFERENCES**

16. “*Study on effect of argon ion irradiation on Sb<sub>2</sub>Se<sub>3</sub> thin films*” International Conference on Electron Microscopy (EMSI-2014), July 7-11, 2014, University of Delhi, Delhi

*Author: Pankaj Tyagi*

17. “*Anisotropic nature of optical band gap of SrI<sub>2</sub> thin films*” “International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials” (ICWNCN-2012), pp – 203-204, March 13-16<sup>th</sup>, 2012 by Department of Physics & Astrophysics, University of Delhi, Delhi, India

*Author: Pankaj Tyagi\**, Vikas Gulia, N.C.Mehra & A.G. Vedeshwar

18. *"Nano-Tubes and Tapes like formation in heat treated  $PbI_2$  thin films"* in "International Conference on Electron Nanoscopy" (EMSI-2011), pp – 333-334, July 6-8<sup>th</sup>, 2011 by Defence Metallurgical Research Laboratory (DMRL), Hyderabad, India.  
*Author: Pankaj Tyagi\**, A.G. Vedeshwar, V. Gulia & N.C.Mehra
19. *"Nucleation and Growth in  $PbI_2$  thin films"* in "International Conference on Advances in Electron Microscopy and Related Techniques" (EMSI-2010), pp – 180-181, March 8-10<sup>th</sup>, 2010 at Bhabha Atomic Research Centre (BARC), Mumbai, India.  
*Author: Pankaj Tyagi\**, A.G. Vedeshwar, V. Gulia & N.C.Mehra
20. *"Single crystal growth of  $BiI_3$  by thermal evaporation: TEM investigations"* National Conference on Electron Microscopy & Allied Fields (EMSI-2009), pp-83-84, January 17-20, 2009, Bundelkhand University, Jhansi.  
*Author: Pankaj Tyagi\**, Chhavi Ranjan, Karnik Pandya, N.C.Mehra & A.G. Vedeshwar
21. *"Morphology of different (hkl) oriented films of some metal iodides"* National Conference on Electron Microscopy & Allied Fields (EMSI-2007), pp-82-83, November 26-28, 2007, University of Delhi, Delhi.  
*Author: Pankaj Tyagi*, Vinod Paliwal, Vikash Gulia, N. C. Mehra and A. G. Vedeshwar
22. *"Thickness dependent morphology of  $BiI_3$  films"* National Conference on Electron Microscopy & Allied Fields (EMSI-2007), pp-86-87, November 26-28, 2007, University of Delhi, Delhi.  
*Author: Karnik Pandya, C. Ranjan, Pankaj Tyagi*, N. C. Mehra and A. G. Vedeshwar
23. *"Morphological study of argon ion irradiated  $Sb_2Se_3$  films in a dense plasma focus device"* Proceedings of 2<sup>nd</sup> International conference on current developments in atomic, molecular and optical physics with applications (CDAMOP), March 21-23, 2006, University of Delhi, Delhi  
*Author: Pankaj Tyagi*, N. C. Mehra and A. G. Vedeshwar
24. *"Laser induced exit surface damage morphology in Yttrium Aluminum Phosphate"* XXVI Annual Conference on Electron Microscopy & Allied Fields, (EMSI-2003), April 16-18, 2003, CPRI, Shimla (H.P.)  
*Author: Amit Garg, Avinashi Kapoor, K.N. Tripathi, Pankaj Tyagi* and N. C. Mehra
25. *"Faster optical data storage in  $Sb_2Te_3$  films"* XXVI Annual Conference on Electron Microscopy & Allied Fields, (EMSI-2003), April 16-18, 2003, CPRI, Shimla (H.P.)  
*Author: Pankaj Tyagi*, A. G. Vedeshwar, V.K.Paliwal, Amit Garg and N. C. Mehra

26. *“Experimental observation of energy band gap variation with grain size for CdI<sub>2</sub> films”* XXVI Annual Conference on Electron Microscopy & Allied Fields, (EMSI-2003), April 16-18, 2003, CPRI, Shimla (H.P.)  
*Author: Pankaj Tyagi, A. G. Vedeshwar, V.K.Paliwal, Amit Garg and N. C. Mehra*
27. *“Residual stress dependent optical properties of CdI<sub>2</sub> films”* XXV Annual Conference of EMSI on Electron Microscopy & Allied Fields,(EMSI-2002) Abs. No.- 95, Feb 19-22, 2002, IIT Bombay, Powai, Mumbai.  
*Author: Pankaj Tyagi, A. G. Vedeshwar, V.K.Paliwal and N. C. Mehra*
28. *“Thickness dependent optical properties of ZnI<sub>2</sub> films”* XXV Annual Conference of EMSI on Electron Microscopy & Allied Fields, (EMSI-2002) Abs. No.-94, Feb 19-22, 2002, IIT Bombay, Powai, Mumbai.  
*Author: N. C. Mehra, Pankaj Tyagi and A. G. Vedeshwar*
29. *“Excitonic absorption and its residual stress dependence in ZnI<sub>2</sub> films”*Proceedings of National Symposium on Science and Technology of Vacuum and Thin Films, pp-46, Sept 5-7, 2001, Indian Institute of Science, Bangalore.  
*Author: A.G. Vedeshwar, Pankaj Tyagi and V.K. Paliwal*
30. *“Effect of heat treatment in CdI<sub>2</sub> films”* XXIV Annual Conference of EMSI on Electron Microscopy & Allied Fields, (EMSI-2001) pp-165, Feb 9-11, 2001, RSIC/CIL , Punjab University, Chandigarh.  
*Author: N. C. Mehra, Pankaj Tyagi and A. G. Vedeshwar*
31. *“The growth of (102) and (002) preferred orientations of crystallites in HgI<sub>2</sub> films : The thickness dependence”* XXIV Annual Conference of EMSI on Electron Microscopy & Allied Fields,(EMSI-2001) pp-87-88, Feb 9-11, 2001, RSIC/CIL , Punjab University, Chandigarh.,  
*Author: Pankaj Tyagi, A. G. Vedeshwar and N. C. Mehra*

### III. **BOOKS Published**

32. **Foundation Course “Information Technology”** University of Delhi by D.V. Singh, Shailendra Kumar, Neeraj Tyagi, Pankaj Tyagi, Sanjeev Singh, Manoj Saxena, Ranjan Kumar (2014) (ISBN:978-81-7371-900-4)  
**Publisher:** Universities Press, Hyderabad, India
33. **“I Discover: A Workbook for ICSE Physics Class 8”** by **Pankaj Tyagi & Rahul Mehra** (2013) (ISBN: 978-1-107-67192-8)

**Publisher:** Cambridge University Press, New Delhi, India

34. **“I Discover: A Workbook for ICSE Physics Class 7”** by **Pankaj Tyagi & Rahul Mehra** (2013) (ISBN: 978-1-107-69930-4)

**Publisher:** Cambridge University Press, New Delhi, India

35. **“I Discover: A Workbook for ICSE Physics Class 6”** by **Pankaj Tyagi & Rahul Mehra** (2013) (ISBN: 978-1-107-69004-2)

**Publisher:** Cambridge University Press, New Delhi, India

36. **“I Discover: A Textbook for ICSE Physics Class 8”** by **Pankaj Tyagi & Rahul Mehra** (2012) (ISBN: 978-1-107-66922-2)

**Publisher:** Cambridge University Press, New Delhi, India

37. **“I Discover: A Textbook for ICSE Physics Class 7”** by **Pankaj Tyagi & Rahul Mehra** (2012) (ISBN: 978-1-107-68127-9)

**Publisher:** Cambridge University Press, New Delhi, India

38. **“I Discover: A Textbook for ICSE Physics Class 6”** by **Pankaj Tyagi & Rahul Mehra** (2012) (ISBN: 978-1-107-68412-6)

**Publisher:** Cambridge University Press, New Delhi, India

39. **“Visualised Science (Term I) –CBSE X”** by P N Kapil, **Pankaj Tyagi**, Sarita Kumar (2011) (ISBN: 978-81-8350-352-5)

**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi

40. **“Visualised Science (Term II) –CBSE X”** by P N Kapil, **Pankaj Tyagi**, Sarita Kumar (2011) (ISBN: 978-81-8350-353-2)

**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi

41. **“Visualised Science (Term I) –CBSE IX”** by P N Kapil, **Pankaj Tyagi**, Sarita Kumar (2011) (ISBN: 978-81-8350-354-9)

**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi

42. **“Visualised Science (Term II) –CBSE IX”** by P N Kapil, **Pankaj Tyagi**, Sarita Kumar (2011) (ISBN: 978-81-8350-355-6)

**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi

43. **“I Explore: A Science Textbook for Class 8”** by Shobhita Johri, **Pankaj Tyagi & Parminder Chopra** (2010) (ISBN: 978-0-521-18602-5) (with CD ROM)

**Publisher:** Cambridge University Press, New Delhi, India



44. **“I Explore: A Science Textbook for Class 7”** by Shobhita Johri, **Pankaj Tyagi** & Parminder Chopra (2010) (ISBN: 978-0-521-18600-1) (with CD ROM)  
**Publisher:** Cambridge University Press, New Delhi, India
45. **“I Explore: A Science Textbook for Class 6”** by Shobhita Johri, **Pankaj Tyagi** & Parminder Chopra (2010) (ISBN: 978-0-521-18597-4) (with CD ROM)  
**Publisher:** Cambridge University Press, New Delhi, India
46. **“Self Tutor : Visualised Science – CBSE X” (Term I)** by **Pankaj Tyagi**, Vinod Kumar & Beena Jain (2009) (ISBN: 978-81-8350-289-4)  
**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi
47. **“Self Tutor : Visualised Science – CBSE X” (Term II)** by **Pankaj Tyagi**, Vinod Kumar & Beena Jain (2009) (ISBN: 978-81-8350-343-3)  
**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi
48. **“Visualised Physics – CBSE IX”** by **Pankaj Tyagi** (2009) (ISBN: 978-81-8350-277-6)  
**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi
49. **“Global Warming: Ek Karva Sach ”(in HINDI)** by **Pankaj Tyagi**, (2009) (ISBN: 978-81-8838-745-8)  
**Publisher:** Pallav Prakashan, Delhi
50. **“Email – Aadhunik Chithi ” (in HINDI)** by **Pankaj Tyagi**, (2009) (ISBN: 978-81-8865-231-0)  
**Publisher:** Pallav Prakashan, Delhi
51. **“Visualised Physics – CBSE X”** by **Pankaj Tyagi** (2008) (ISBN: 978-81-8350-235-0)  
**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi
52. **“Self Tutor Science Physics – CBSE X”** by **Pankaj Tyagi**, (2007) (ISBN: 978-81-8350-228-8)  
**Publisher:** Sultan Chand and Son(s) Pvt Ltd.- Educational Publishers , Delhi
53. **“Ekkisvin Sadi Ka Vigyan” (in HINDI)** by **Pankaj Tyagi**, (2002) (ISBN: 81-88387-19-3)  
**Publisher:** Pallav Prakashan, Delhi

## Conference Organization and Participation

### ***Organization of a Conference/Participation in a Conference***

1. Keynote Speaker in 2<sup>nd</sup> **International Conference on Science, Technology and Management** organized by Conference World AR Research Publication and held on 27<sup>th</sup> September 2015 at University of Delhi. Title of talk “Innovation at undergraduate Level: Need for Industrial and Academic Linkage”.
2. Participated in the “**World Conference on Global Innovation**” organized by Human Life Advancement Foundation (HLAF) held on 27<sup>th</sup> March 2013 at Putra World Trade Centre, **Kuala Lumpur, Malaysia**.
3. Participated in the **International Conference “The Legacy of Srinivasa Ramanujan”** organized by University of Delhi from 17-22 December 2012 and worked as member of Local Organizing Committee.
4. Participated in the **Academic Congress “Enabling the Young : Redefining Education”** organized by **University of Delhi from September 6-7, 2012** and acted as rapporteur for the session “Integrating Mind, Body, and Heart” with Mr. Sanjeev Bhargava, Founder, SEHER, and Mr. K. Srikanth, Chief Selector of the Indian Cricket team as speaker.
5. Acted as **Co-convener** in organizing “**International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials ” (ICWNCN-2012)**, March 13-16<sup>th</sup> , 2012 by Department of Physics & Astrophysics, University of Delhi, Delhi, India
6. Acted as **Co-convener** in organizing “**International Conference on Electroceramic (ICE-2009)**”, December 13-17<sup>th</sup> 2009, Department of Physics & Astrophysics, University of Delhi

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

1. Co-PI in a project “Establishing Process Based Identification and Mentoring Practices for Potentially Gifted Children in Science and Mathematics” funded by DST through PSA, GoI (2014-2017) (Grant Rs.1.27 Crore)
2. PI in Innovation Project of University of Delhi for the project “Innovatively designed physics experimental modules with link to interactive website and mobile apps”: 2015-16 (Grant Rs. 5.00 Lakh)
3. PI in Innovation Project of University of Delhi for the project “Designing innovative working models to explain concepts of physics and mathematics along with IT based module”: 2013-14 (Grant of Rs. 7.50 Lakh)

4. Co-PI in Innovation Project of University of Delhi under the scheme “Programs for Enhancing undergraduate Learning and Teaching Experiences through Innovative Projects” for the project titled “IT model for parking space management: optimal and efficient parking-retrieval of vehicles”: 2012-13 (Grant of Rs. 10 Lakh)

### Awards and other Distinctions

1. “Teaching Excellence Award for Innovation” by University of Delhi during academic session 2014-15 for Innovation Project “Designing Innovative Working Models to Explain concepts of Physics and Mathematics along with IT based modules”.
2. Represented University of Delhi at 2<sup>nd</sup> National Knowledge Network Workshop Entitled “Enhancing Research Collaborations through NKN” held from 17-19<sup>th</sup> October 2013 at IISc Bangalore.
3. Participated as Invited Guest to the official launching of the Human Life Advancement Foundation & World Conference on Global Innovation held on 27<sup>th</sup> March 2013 at Putra World Trade Centre, Kuala Lumpur, Malaysia.
4. Participated in the Jury Process of INSPIRE AWARD National Level Exhibition and Project Competition (NLEPC) conducted by Department of Science and Technology (DST), Ministry of Science and Technology, Government of India held at New Delhi in 2014, 2013, 2012.
5. Nominated for “The 2006 Man of The Year’s Commemorative Medal” by Board of International Research of the American Biographical Institute (ABI), North Carolina, USA.
6. Nominated for “The 2005 Man of The Year’s Commemorative Medal” by Board of International Research of the American Biographical Institute (ABI), North Carolina, USA.
7. Graduate Aptitude Test in Engineering (GATE) – 1993, Percentile Score 88.48
8. Qualified at Joint CSIR/UGC National Level Test for Junior Research Fellowship (JRF) and Eligibility for Lectureships (NET) -1993
9. Delhi University Science Meritorious Award 1990-91.
10. Certificate of Junior National Mathematics Olympiad Contest-1986

### Association With Professional Bodies

1. Life membership of “Ramanujan Mathematical Society” (Registered No. 64/1985), Thiruchippali, India (Membership No. 1139)

2. Life membership of “Electron Microscope Society of India (EMSI) ” (Registered No. SC/5228), India (Membership No. LM-476)
3. Life membership of “Society for Technologically Advanced Materials of India” (STAMI-Regd. No. MH/589/07).
4. Honorary appointment as member of the Research Board of Advisors, The American Biographical Institute (ABI), North Carolina, USA since 2003.
5. Guest faculty in University of Petroleum & Energy Studies (UPES), Delhi for B.Tech. during academic session 2003-04.
6. Guest faculty in Keshav Mahavidhyalaya, University of Delhi, Delhi for B.Sc.(H) Electronics and B.Sc.(G) during the academic session 2003-04, 2004-05, 2005-06.
7. Worked on a project on “Super luminal motion and relativistic beaming of quasars” under the guidance of Dr. Gopal Krishna at Inter-University Centre for Astronomy and Astrophysics (IUCAA) , Pune from June 3-27, 1992.

#### Other Activities

1. Participated in the Jury Process of INSPIRE AWARD National Level Exhibition & Project Competition (NLEPC) conducted by Department of Science and Technology (DST), Ministry of Science and Technology, Government of India held at IIT Delhi on 06-07 December 2015.
2. Keynote Speaker in 2<sup>nd</sup> International Conference on Science, Technology and Management organized by Conference World AR Research Publication and held on 27<sup>th</sup> September 2015 at University of Delhi. Title of talk “Innovation at undergraduate Level: Need for Industrial and Academic Linkage”.
3. Participated in National Workshop on “Best Practices in Citizen Centric Governance” organized by Ministry of Personnel, Public Grievances & Pensions at Vigyan Bhavan, New Delhi on 10-11 September 2015.
4. Participated in One Day Sensitization Workshop organized by Centre for Innovation in Public Systems (CIPS) on e-Governance initiatives under “Capacity Building Programmes of Innovatives/Best Practices under Mission Mode Projects of State Governments and Government of India” held on 28 August 2015 at New Delhi.
5. Judged Science inter-school competition “Heisenberg” at Bal Bharti Public School on 5<sup>th</sup> May 2015.
6. Member of Screening Committee for promotion of Group ‘A’ S&T officers under MFCS at Software Technology Park of India.

7. Conducted a seminar on ‘Experiment with Light” on 2.2.2016 at Kendriya Vidyalaya, Shalimar Bagh, Delhi for JNNSMEE Regional Science exhibition.
8. Member of Screening Committee for promotion of Group ‘A’ S&T officers under MFCS at Software Technology Park of India.
9. Member of Governing body of Swami Shraddhanand College, University of Delhi from 26.02.2016