

# Cluster Innovation Centre



...Evolving Senses  
Dissolving Boundaries...

संकुल  
नवप्रवर्तन  
केंद्र

Title	Prof.	First Name	PANKAJ	Last Name	TYAGI	Photograph
<b>Designation</b>		<b>PROFESSOR</b>				
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Email		<a href="mailto:pankajtyagi@cic.du.ac.in">pankajtyagi@cic.du.ac.in</a> <a href="mailto:pankajtyagicicdu@gmail.com">pankajtyagicicdu@gmail.com</a>				
Web-Page		<a href="https://sites.google.com/cic.du.ac.in/pankajtyagi">https://sites.google.com/cic.du.ac.in/pankajtyagi</a> <a href="https://cic.du.ac.in">https://cic.du.ac.in</a>				
<b>Educational Qualifications</b>						
Degree	Institution				Year	
Ph.D.	Department of Physics & Astrophysics, University of Delhi				2002	
PG: M.Sc. (Physics with Electronics)	Department of Physics & Astrophysics University of Delhi				1993	
UG: B.Sc. (Hons) Physics	Hans Raj College, University of Delhi				1991	
<b>Career Profile</b>						
<ul style="list-style-type: none"> <li>• Present date - since 12 March 2015: Professor, Cluster Innovation Centre (CIC), University of Delhi, Delhi – 110007</li> <li>• 4<sup>th</sup> July 2012 till 11 March 2015 (on deputation): Associate Professor in Physics &amp; Electronics, Cluster Innovation Centre (CIC), University of Delhi, Delhi – 110007</li> <li>• 13<sup>th</sup> Jan 2012 till 3<sup>rd</sup> July 2012(on deputation): Fellow in Physics, Institute of Lifelong Learning (ILLL), University of Delhi, Delhi – 110007</li> <li>• 26<sup>th</sup> August 1996 till 12<sup>th</sup> Jan 2012: Teaching faculty (Lecturer, Senior Lecturer, Reader and Associate Professor), Acharya Narendra Dev College (ANDC), University of Delhi, Delhi</li> <li>• 17<sup>th</sup> July 1995 till 25<sup>th</sup> August 1996: Temporary Lecturer, Acharya Narendra Dev College (ANDC), University of Delhi, Delhi</li> </ul>						

## **Administrative & other Academic Assignments**

### **Academic and Administrative Assignments 2024**

- **2024.08.27** Invited speaker for talk to celebrate First National Space Day program at **Dyal Singh College**, University of Delhi on 27th August, 2024.
- **2024.08.21** Appointed as Observer by Sports Council, University of Delhi for the conduct of sports trial for UG admissions in Handball at SPM College on 21 & 22 August 2024.
- **2024.07.12** Chaired the session on "Angdaan Mahadaan" during Lokaarpan of conference hall at **Dr. Bhim Rao Ambedkar College**, University of Delhi on 12 July 2024.
- **2024.05.04** **Nominated as Subject Expert member of Selection Committee** for promotion to Professor Level (Department of Instrumentation) at **Bhaskaracharya College of Applied Science**, University of Delhi held on 4 May 2024.
- **2024.03.07** **Nominated as Vice Chancellors Nominee of Selection Committee** for promotion from Assistant Professor to Associate Professor Level (Department of Punjabi) at **Dyal Singh College**, University of Delhi on 7 March 2024.
- **2024.03.04** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Hindi) at **Sri Aurobindo College**, University of Delhi from 4 to 9 March 2024.
- **2024.02.28** **Guest of Honour at National Science Day** Celebrations at **Dyal Singh College**, University of Delhi on 28th and 29th February, 2024.
- **2024.02.08** Chaired the **33rd Annual Day & Prize Distribution function** of **Dr. Bhim Rao Ambedkar College**, University of Delhi on 8 February 2024.
- **2024.02.06** Appointed **University Representative on Governing Body of School of Rehabilitation Sciences**, University of Delhi for a period of one year
- **2024.02.02** Participated in the **Annual Cultural Festival 2023-24** of **Dr. Bhim Rao Ambedkar College**, University of Delhi organised on 1-2 February 2024.

### **Academic and Administrative Assignments 2023**

- **2023.11.20** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Political Science) at **Shivaji College**, University of Delhi from 20 to 25 November 2023.
- **2023.11.13** **Nominated as Subject Expert, Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Physics) at **Shivaji College**, University of Delhi from 13 to 18 November 2023.
- **2023.10.26** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Geography) at **Kalindi College**, University of Delhi from 26 to 29 October 2023.
- **2023.10.18** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Chemistry) at **Gargi College**, University of Delhi from 18 to 20 October 2023.
- **2023.10.12** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Biochemistry) at **Lady Irvin College**, University of Delhi from 12 to 13 October 2023.
- **2023.10.08** Appointed as **University Observer, Delhi University Sports Admission Committee 2023** for Sports Supernumerary Quota in UG programs 2023-24 in Handball.
- **2023.09.23** Appointed **University Representative on Governing Body** of **Dr. Bhim Rao Ambedkar College**, University of Delhi. Selected as Chairman.
- **2023.09.11** **Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Biochemistry)

at **Shivaji College**, University of Delhi from 11 to 14 September 2023.

- **2023.08.18 Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Economics) at **PGDAV College**, University of Delhi from 18 to 21 August 2023.
- **2023.08.28 Nominated as Subject Expert, Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Physics) at **Institute of Home Economics**, University of Delhi from 28 to 29 August 2023.
- **2023.07.27 Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Political Science) at **Janki Devi Memorial College**, University of Delhi from 27 July to 1 August 2023.
- **2023.07.10** Appointed as Joint Coordinator, Design Innovation Centre, University of Delhi
- **2023.04.27** As special invitee for Alumni Interaction with NAAC (National Assessment and Accreditation Council) Peer Team at Hans Raj College, University of Delhi on 27 April 2023.
- **2023.04.05 Nominated** as a **member** of Planning and Programming Committee (PPC) of **National Science Centre**, Delhi for a period of 02 years.
- **2023.03.27 Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Political Science) at **Sri Venkateshwara College**, University of Delhi from 27 March to 3 April 2023
- **2023.03.23** Inaugural **lecture** of QUEST 23, Fest of Physics Society of Maitreyi College, University of Delhi on "**Innovations: Self Learning**" on 23 March 2023.
- **2023.03.13** As **Convener**, organised **National Seminar on Innovation in Higher Education through Public - Private - Partnership (PPP) Model** at Cluster Innovation Centre, University of Delhi from 13-15 March 2023.
- **2023.02.08** Participated / Organised **International Conference** on Electron Microscopy & XLI Annual Meeting of Electron Microscope Society of India, EMSI-2023 held at University of Delhi, India, during *February 08 - 10, 2023* and made an **oral presentation** on "Structural, electronic, optical and thermodynamic properties of tungsten diselenide (WSe<sub>2</sub>) under pressure: First-principle Calculations" Authors: Pankaj Tyagi, Pradeep Kumar and Agnikumar G. Vedeshwar, University of Delhi.
- **2023.02.06** Appointed **University Representative on Governing Body of School of Rehabilitation Sciences**, University of Delhi for a period of one year.
- **2023.01.18** As Co-PI, participated in Delhi Effective Education and Pedagogy Cluster (DEEP-C)'s "**Blue Planet Sustainability Fellowships**" three-day **orientation program** held at Design Innovation Centre, University of Delhi from 18-20 January 2023.
- **2023.01.03 Nominated as Vice Chancellors Nominee** in Selection Committee for appointment of Assistant Professor Level (Department of Computer Science) at **Ram Lal Anand College**, University of Delhi from 3 to 8 January 2023.

#### **Academic and Administrative Assignments till 2022**

1. Member of Screening Committee for selection of Assistant Professors in DU, 2022
2. Member of Selection Committee for Scientist D and Scientist E at STPI, New Delhi 2021
3. Member of Selection Committee for Promotion to Professor Level in Dayal Singh College, DU 2021
4. Member of Selection Committee for Promotion to Associate Professor Level in Miranda House DU, 2021
5. Coordinator, M.Sc. (Mathematics Education), Meta University Concept Programme Jointly offered by the University of Delhi and Jamia Millia Islamia, From 11<sup>th</sup> October 2012 since

25<sup>th</sup> February 2021

6. Member DU's 97th Annual Convocation Webcast and Digital Requirement Committee, 2021
7. Member of Selection Committee for Scientist E at STPI, 2020
8. Jury Member for INSPIRE Awards-MANAK 7th National level Exhibition and Project Competition (NLEPC) Program of Department of Science & Technology (DST), Ministry of Science & Technology on February 14, 2019 at IIT Delhi.
9. Member of screening committee for shortlisting entries for Innovation Festival 2019 held at National Science Centre, Delhi from 7<sup>th</sup> to 9<sup>th</sup> February 2019.
10. Member of Local organizing committee of International Conference on Nano-Structured Materials & Devices organized by Society for Technologically Advanced Materials of India (STAMI) & University of Delhi from December 17-20, 2018.
11. Member of committee of the Swachh Bharat Summer Internship Programme, University of Delhi -2018
12. Member of the panel of judges for Innovation Fair held at National Science Centre, Delhi on 21 January 2018.
13. Coordinator for QUEST-2017, Science Education program conducted by Centre for Science Education and Communication, University of Delhi.
14. Observer in Delhi University Entrance Test – 2017
15. Member in panel of examiners of IGNOU, 2017
16. Member of committee to select Innovators for Innovation Festival 2017 at National Science Centre, Delhi.
17. Jury of 6<sup>th</sup> National Level Exhibition and Project Competitions (NLEPC) 2016 of DST-INSPIRE AWARD at NPL New Delhi during December 10-11, 2016
18. Judged Atal Tinkering Labs (ATL) - Innovation Challenge<sup>[1]</sup> organized under Atal Innovation Mission by NITI Aayog, Government of India in Delhi in Nov 2016
19. Member of Advisory Board for Software Technology Park of India (STPI) Gurgaon since July 2016 till date.
20. Member of Governing body of Swami Shraddhanand College, University of Delhi from 26.02.2016 till 25.08.2016
21. Jury 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.
22. 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.
23. 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.
24. Member of Technical Committee to monitor VPN connectivity in colleges of University of Delhi and North & South Campus from March 2015 till date.
25. Member of Screening Committee for promotion of Group ‘A’ S&T officers under MFCS at Software Technology Park of India, Delhi in May 2016.
26. Member of the Organizing Committee University of Delhi’s Cultural & Academic Program “Antardhvani” 2015, 2014, 2013 <sup>[1]</sup><sub>SEP</sub>
27. Coach Coordinator in “Gyanodaya Express III: An Educational Train Journey of University of Delhi” from 02-08 September 2013. <sup>[1]</sup><sub>SEP</sub>
28. Resource Person in the Workshops on Foundation Course “Building Mathematical Ability” (Five Cycles: 15 days: May-July 2013) <sup>[1]</sup><sub>SEP</sub>
29. Resource Person in the Workshops on Foundation Course “Information Technology” (Five

<p>Cycles: 15 days: May-July 2013 ) .</p> <p>30. Nominated Member of Empowered Committee for framing curriculum/syllabus of three Foundation Courses under FYUP: Information Technology, Building Mathematical Ability and Science &amp; Life, 2013. [SEP]</p> <p>31. Observer for DUSU Polls 2013, 2012. [SEP]</p> <p>32. Fellow in Physics at Institute of Lifelong Learning (ILL), University of Delhi From Jan 2012 till July 2012.</p> <p>33. 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 &amp; Astrophysics, University of Delhi, Delhi, India .</p> <p>34. Convener in a 3-Week Refresher Course in the subject “<i>Physics &amp; Electronics</i>” conducted by CPDHE, University of Delhi, Delhi-110007, From December 23, 2010 to January 13, 2011.</p> <p>35. Observer, for conducting FMS-MBA-2011 Examination, University of Delhi, Delhi-110007</p> <p>36. Co-coordinator in a 3-Week Refresher Course in the subject “<i>Physics &amp; Electronics</i>” conducted by CPDHE, University of Delhi, Delhi-110007, From December 01 to December 22, 2008.</p> <p>37. Examination Tabulator for Delhi University Annual Examination –2006-2011</p>
<p><b>Areas of Interest / Specialization</b></p> <ul style="list-style-type: none"> <li>• Physics</li> <li>• Vedic Mathematics</li> <li>• Innovation in Education</li> <li>• Innovative Pedagogy</li> <li>• Innovation at Undergraduate Level</li> <li>• Mathematics Education</li> <li>• Electronics and devices</li> <li>• Thin films &amp; Optical properties</li> </ul>
<p><b>Subjects /Papers Taught</b></p> <ul style="list-style-type: none"> <li>• Value Addition Course – Vedic Mathematics-I (DU)</li> <li>• Innovation in Education, M. Sc. (Mathematics Education) (CIC)</li> <li>• Physics at work I &amp; II : Deconstructing Machines (CIC)</li> <li>• Electronics at work &amp; Circuit Simulation (CIC)</li> <li>• Circuit Analysis and Synthesis (CIC)</li> <li>• Digital Electronics and Logic Design – Innovation Lab (CIC)</li> <li>• Innovation Project-I: Interlinking mathematics and real-life problems (CIC)</li> <li>• Mechanics, Thermal Physics, Optics, Modern Physics, Electricity &amp; Magnetism Electronic Devices, Waves &amp; Oscillation, Digital Electronics, Quantum Mechanics, Atomic and Molecular Physics, Solid State Physics, Nuclear and Particle Physics, Physics &amp; Electronics Practical (ANDC)</li> </ul>
<p><b>Publications Profile</b></p>
<p><b><u>PAPERS PUBLISHED IN INTERNATIONAL/NATIONAL JOURNALS</u></b></p> <p>1. <b>University-based Mentoring Program for School Going Gifted Students</b>  Journal: Gifted and Talented International(<a href="https://doi.org/10.1080/15332276.2023.2289455">https://doi.org/10.1080/15332276.2023.2289455</a>)  Published online: 08 Dec 2023  <b>Authors:</b> Jyoti Sharma, Bibhu Biswal, <b>Pankaj Tyagi</b> and Shobha Bagai</p> <p>2. <b>"Innovative Science Practices for Mentoring Potentially Gifted Students in India"</b>  published in Indian Journal of Science and Technology, Volume 15, Issue 25, Pages 1234-</p>



1243, July 2022.

Author: Pankaj Tyagi

3. **“Writing Mathematical Theorems: Towards an Innovative Pedagogy”** Indian Journal of Science and Technology, Volume 14, Issue 15, Pages 1205-1211, April 2021.  
Author: Pankaj Tyagi
4. **“Parenting Gifted Children: Voices from India”** Magazine PHP (Parenting for high potential), Volume 7, Issue 4, December 2019, Published by National Association for Gifted Children, Washington, DC, USA  
Authors: Jyoti Sharma, Shobha Bagai, Pankaj Tyagi and Bibhu Biswal
5. **“Triggering Innovative Output through Hands-On Learning at Undergraduate Level”** International Journal of Interdisciplinary Research and Innovations, Vol. 6, Issue 2, pp: (126-133), Month: April - June 2018 (ISSN: 2348-1218 (print), 2348-1226 (online))  
Author: Pankaj Tyagi
6. **“Multiple dimensions of functional relevance of genosensors”**, INTEGRATED FERROELECTRICS, 2017, VOL.185,134-143 (ISSN: 1058-4587 (Print) 1607-8489 (Online)), Publisher: Taylor and Francis  
Authors: Mahima Kaushik, Sonia, Swati Mahendru, Pankaj Tyagi & Shrikant Kukreti
7. **“Optical band gap demarcation around 2.15 eV depending on preferred orientation growth in red HgI<sub>2</sub> films”**, Physica B 510 (2017) 1–6 Publisher: Elsevier  
Author: Pankaj Tyagi
8. **“Trig-Disc: An innovative device for determination of values of trigonometric functions with single measurement”** International Journal of Innovation and Scientific Research, Vol. 27 No. 1 Oct. 2016, pp. 216-224<sup>[SEP]</sup>, Publisher: Innovative Space of Scientific Research Journals, Morocco  
Authors: Pankaj Tyagi, Jyoti Sharma, Kamal Ranjan, Vikas Tomar and R. Tripathi
9. **“Designing of a Basic Mathematical Kit to Assist Mathematical Skill Development Among Children with Autism”** International Journal of Advanced Research in Education & Technology Vol. 3, Issue 3 (July - Sept. 2016) , pp. 153-158  
Authors: Himanshi Vashishth, Sangeeta, Jyoti Sharma, Pankaj Tyagi<sup>[SEP]</sup>
10. **“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
11. **“Development of Target-Group Specific Innovative Android-Based Mathematics Educational Modules”**<sup>[SEP]</sup> DU Journal of Undergraduate Research and Innovation (2015)<sup>[SEP]</sup>, Publishers: University of Delhi, India  
Authors: Shikhar Sharma , Raghavendra Tripathi, Pankaj Tyagi
12. **“Revival and Innovations in Mathematics Pedagogy: A Case Study”** International Journal of Innovative Trends in Engineering, Volume- 01, Number-01, 13-16, (2014)<sup>[SEP]</sup>, Publishers: Foundation of Modern Research, India  
Authors: Jyoti Sharma and Pankaj Tyagi
13. **“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
14. **“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
15. **“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
16. **“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
17. “Residual stress dependent optical properties of  $ZnI_2$  films” *Physica Status Solidi (a)*, 191, 633-642 (2002), Publisher: Wiley-VCH, Berlin  
 Authors: Pankaj Tyagi and A. G. Vedeshwar
18. “Grain size dependent optical properties of  $CdI_2$  films”, *The European Physical Journal of Applied Physics*, 19, 3-13 (2002) Publisher: EDP Sciences  
 Authors: Pankaj Tyagi and A. G. Vedeshwar
19. “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
20. “Anisotropic optical band gap of (102) - and (002) - oriented films of red  $HgI_2$ ”, *Physical Review B* 63, 245315 (1-6) (2001), Publisher: The American Physical Society  
 Authors: Pankaj Tyagi and A. G. Vedeshwar
21. “Thickness dependent optical properties of  $CdI_2$  films”, *Physica B* 304, 166-174, (2001),  
 Publisher: Elsevier  
 Authors: Pankaj Tyagi, A. G. Vedeshwar and N. C. Mehra
22. “Grain size dependent optical band gap of  $CdI_2$  films”, *Bull. Mater. Sci.* 24(3), 297-300 (2001),  
 Publisher: Indian Academy of Sciences  
 Author: Pankaj Tyagi and A. G. Vedeshwar
23. “Optical properties of  $ZnI_2$  films”, *Physical Review B* 64, 245406(1-7) (2001), Publisher: The American Physical Society.  
 Authors: Pankaj Tyagi and A. G. Vedeshwar
24. “Aging effects of  $Sb_2Te_3$  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

25. "Structural, electronic, optical and thermodynamic properties of tungsten diselenide ( $WSe_2$ ) under pressure: First-principle Calculations" **International Conference** on Electron Microscopy & XLI Annual Meeting of Electron Microscope Society of India, EMSI-2023 held at University of Delhi, India, during *February 08 - 10, 2023*  
 Authors: Pankaj Tyagi, Pradeep Kumar and Agnikumar G. Vedeshwar
26. “Study on effect of argon ion irradiation on  $Sb_2Se_3$  thin films” International Conference on Electron Microscopy (EMSI-2014), July 7-11, 2014, University of Delhi, Delhi, India  
 Author: Pankaj Tyagi
27. “Anisotropic nature of optical band gap of  $SrI_2$  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
28. “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
29. “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
30. “*Single crystal growth of BiI<sub>3</sub> 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
31. “*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
32. “*Thickness dependent morphology of BiI<sub>3</sub> 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
33. “*Morphological study of argon ion irradiated Sb<sub>2</sub>Se<sub>3</sub> 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
34. “*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
35. “*Faster optical data storage in Sb<sub>2</sub>Te<sub>3</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
36. “*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
37. “*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
38. “*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
39. “*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
40. “*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
41. “*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**

42. 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)<sub>ISEP</sub>  
Publisher: Universities Press, Hyderabad, India
43. “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
44. “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
45. “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
46. “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
47. “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
48. “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
49. “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
50. “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
51. “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
52. “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
53. “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
54. “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

55. "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
56. "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
57. "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
58. "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
59. "Global Warming: Ek Karva Sach "(in HINDI) by Pankaj Tyagi, (2009) (ISBN: 978-81-8838-745-8) Publisher: Pallav Prakashan, Delhi
60. "Email – Aadhunik Chithi " (in HINDI) by Pankaj Tyagi, (2009) (ISBN: 978-81-8865-231-0)  
Publisher: Shanti Prakashan, Delhi
61. "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
62. "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
63. "Ekkisvin Sadi Ka Vigyan" (in HINDI) by Pankaj Tyagi, (2002) (ISBN: 81-88387-19-3)  
Publisher: Pallav Prakashan, Delhi

#### Conference Organization and Participation

1. As special invitee for Alumni Interaction with NAAC (National Assessment and Accreditation Council) Peer Team at Hans Raj College, University of Delhi on 27 April 2023.
2. Delivered Inaugural **lecture** of QUEST 23, Fest of Physics Society of Maitreyi College, University of Delhi on "**Innovations: Self Learning**" on 23 March 2023.
3. As **Convener**, organised **National Seminar on Innovation in Higher Education through Public - Private - Partnership (PPP) Model** at Cluster Innovation Centre, University of Delhi from 13-15 March 2023.
4. As Convener, organised **International Conference** on Electron Microscopy & XLI Annual Meeting of Electron Microscope Society of India, EMSI-2023 held at University of Delhi, India, during *February 08 - 10, 2023*
5. As Co-PI, participated in Delhi Effective Education and Pedagogy Cluster (DEEP-C)'s "**Blue Planet Sustainability Fellowships**" three-day **orientation program** held at Design Innovation Centre, University of Delhi from 18-20 January 2023.
6. **Talk** on "**Innovation and Mathematics**" on National Mathematics Day 2022 at Cluster Innovation Centre, University of Delhi, Delhi on 22 December 2022.
7. Conducted an hands-on **Workshop on "Entrepreneurship Skill, Attitude and Behaviour Development"** on 12th December, 2022 organised by Institution's Innovation Council (IIC) of Ramanujan College, University of Delhi with undergraduate students.
8. Online Popular Lecture on "**Play : Innovate :: Learn : Earn**" as Chief Guest in National e-Conference on Empowering Rural Children in science and Technology for Innovation Leading to Entrepreneurship organised by Institute of Management and Advanced Studies (IMAS), Lucknow on 30 June 2021.
9. Popular Science Lecture (online), Topic "Let's Innovate to Learn" on the occasion of

- National Technology Day, Organised by National Science Centre, Delhi on 11 May 2021
10. Participated in a Webinar on Academic Leadership Program for Academicians on the theme "Role of Teachers in National Education Policy: Awareness, Orientation, Challenges & Responses on 22 March 2021 organised by Bhartiya Shikshan Mandal & NITI AYOOG in collaboration with CPDHE, University of Delhi.
  11. Online Talk on "Innovation & Research at Undergraduate Level" for Physics and Electronics Society, Hans Raj College, University of Delhi, 2021.
  12. Participated in webinar on NEP-Open Digital Education organised by ILL, DU, 12.10.2020
  13. Participated in e-Yantra Symposium at ERTS Lab, Department of CSE, IIT Bombay, Powai, Mumbai from 5-6<sup>th</sup> April 2019.
  14. Participated in a workshop on Revamping Exam Standards in India: Improving Evaluation and Assessments for Higher Education and Professionals held on 30 November 2018 hosted by India-ATP in Delhi.
  15. Participated in workshop of Design Innovation Centers during Festival of innovation and Entrepreneurship 2018 held at Rashtrapati Bhavan, New Delhi on 22 March 2018.
  16. Participated in International Conference on Technologically Advanced Materials (ICTAM) held in University of Delhi from November 7-11, 2016
  17. 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".
  18. 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.
  19. 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.
  20. 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.
  21. 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
  22. 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) <sup>[SEP]</sup>
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. Under Commonwealth of Learning, on 29 May 2022 completed an online course on "**Introduction to AI for IT and Non-IT professionals**" offered by Virtual University for Small States of the Commonwealth.
2. “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”.
3. Represented University of Delhi at 2nd National Knowledge Network Workshop Entitled “Enhancing Research Collaborations through NKN” held from 17-19th October 2013 at IISc Bangalore.
4. 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. [ISEP]
5. 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.
6. 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.
7. 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.
8. Graduate Aptitude Test in Engineering (GATE) – 1993, Percentile Score 88.48
9. Qualified at Joint CSIR/UGC National Level Test for Junior Research Fellowship (JRF) and Eligibility for Lectureships (NET) -1993
10. Delhi University Science Meritorious Award 1990-91.
11. 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.

#### **Other Activities**

1. Under Commonwealth of Learning, on 29 May 2022 completed an online course on "**Introduction to AI for IT and Non-IT professionals**" offered by Virtual University for Small States of the Commonwealth.
2. Popular Science Lecture (online), Topic "**Let's Innovate to Learn**" on the occasion of National Technology Day, National Science Centre, Delhi on **11 May 2021**.
3. Online Talk on "**Innovation & Research at Undergraduate Level**" for Physics and Electronics Society, Hans Raj College, University of Delhi on **25 February 2021**.
4. Presented an online session on "**Innovative Teaching: Simplifying Learning**" on **21 August, 2020** on series #LetsTalkEducation 3.0" organised by Delhi Government Education Departments' Educational platform "Education for Future" for their teachers.
5. On **April 25, 2019** Prof. Pankaj Tyagi and Prof. Shobha Bagai from CIC, DU Conducted a workshop session on "**Understanding problem identification process for entrepreneurs**" at Shyam Lal College, University of Delhi.
6. Delivered a lecture on "Innovative Pedagogy: Must for Innovation" in 5<sup>th</sup> Refresher Course in Contemporary Studies (Interdisciplinary) on January 16, 2019 at UGC-HRD Centre, JNU, Delhi.
7. Invited Talk on "*New Approaches to Learning in the Classroom*" in programme titled Professional Development in Education Management organized by the DPS Society on, 13 June 2018 at the DPS Society's HRD Centre, Sector -3, Phase-1, Dwarka, New Delhi. (June 2018)
8. Member of panel of Judges for Innovation Fair at National science Centre, New Delhi (Jan 2018)
9. Member of various committees at Cluster Innovation Centre (July 2018- June 2019)
10. Departmental Purchase Committee
11. Infrastructure and Space Committee
12. Computer and Website Committee
13. Anti-Ragging Committee
14. Academic Committee (Convener)
15. Invited Talk in a seminar on '*Experiment with Light*' on 2.2.2016 at Kendriya Vidyalaya, Shalimar Bagh, Delhi for JNNSMEE Regional Science exhibition.

Signature

**Prof. Pankaj Tyagi**

**Sept 2024**