

CURRICULUM VITAE

Full Name: MAHENDRA SINGH DHAKA
Father's Name: Sh.(Late) Chandra Bhan Dhaka
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Udaipur-313001, Rajasthan, INDIA

Academic Degree : M.Sc., M. Phil., Ph.D.

Designation : Professor of Physics & Dean Student Welfare

Present Pay Scale : Academic Level-14

Nationality: Indian

Marital Status: Married

Date of Birth: October 10, 1975

Academic Career

Degree/ Diploma	Board / University	Year of Passing	Subject
Secondary	Raj. Board of Sec. Edu., Ajmer	1991	All compulsory
Sr.Secondary (10+2)	Raj. Board of Sec. Edu., Ajmer	1993	Hindi, English, Phy, Chy, Maths
B.Sc.	M.D.S. Univ., Ajmer	1996	Phy, Chy, Maths
M.Sc.	M.D.S. Univ., Ajmer	1998	Physics
M.Phil.	Univ. of Raj., Jaipur	1999	Physics
	<i>Title of the M. Phil. Dissertation: Passage of relativistic heavy ions in a composite medium like nuclear emulsion.</i>		
NET	CSIR, New Delhi	June, 2000	Physical Sciences
Ph. D.	Univ. of Raj., Jaipur	2010	Science
	<i>Title of the Ph.D. thesis: Electronic structure studies of some compounds of transition metals by Compton scattering technique.</i>		

Teaching Experience:

Name & Address of employer	Post Held	Period of service		* Description of the work T R E A
		From	To	
Mohan Lal Sukhadia University, Udaipur	Professor Department of Physics	20-12-2015	Till Date	T, R & A
Iowa State University, Ames, Iowa, USA	Raman Postdoctoral Fellow	15-09-2015	14-09-2016	R
Mohan Lal Sukhadia University, Udaipur	Associate Professor Department of Physics	17-03-2012	19-12-2015	T & R
Engineering College, Bikaner	Assistant Professor Department of Physics	01-01-2006	16-03-2012	T, R & A
Engineering College, Bikaner	Lecturer Department of Physics	10-03-2005	31-12-2005	T & A
Shekhawati Engg. College, Dundlod (Jhunjhunu)	Lecturer Department of Physics	01-07-2003	09-03-2005	T & A
S.B.D. Todi College, Laxmangarh (Sikar)	Lecturer in Physics	21-09-2002	28-02-2003	T
Vinodini P.G. College, Khetri (Jhunjhunu)	Lecturer in Physics	01-09-2001	28-02-2002	T
Vinodini P.G. College, Khetri (Jhunjhunu)	Lecturer in Physics	03-10-2000	28-02-2001	T
Alok College of Science, Kekri (Ajmer)	Lecturer in Physics	11-10-1999	30-09-2000	T

* T: Teaching, R: Research, E: Extension, A: Education Admn.

Publications: Books (written) and Conference Proceedings and Abstract Books (edited):

- Elements of Particle Dynamics, 1999.
- Elements of Modern Physics in Engineering, 2001 ISBN: 81-86599-33-9.
- Abstract Book of HMMP, 2004; ISBN: 81-86599-61-4.
- Abstract Book of International Conference on Physics for World and Society, 2005, ISBN: 81-86599-46-00.
- Proceedings of HMPP, 2005 ISBN: 81-86599-45-2.
- Proceedings of International Conference on Laboratory Innovations in Physics, 2007 ISBN: 81-89681-15-X.
- Abstract Book ICCMP2007, ISBN: 81-903610-3-1.
- Proceedings NSRTNS2008, ISBN: 81-89861-02-8.
- Practical Engineering Physics, Jaipur, 2008 ISBN: 81-8142-384-4.
- Engineering Physics, Jaipur, 2008 ISBN: 81-8142-362-3.
- Recent Trends in Thin Film Technology, Jaipur 2015 ISBN: 978-93-85181-99-3.

Research Papers (Journals: 54, Conf. Proc.: 13, Citations: 772, h-index:17, i-index:27):

*Journals: (*corresponding author or mentor of the first or corresponding author)*

1. Himanshu, S.L. Patel, D. Agrawal, S. Chander, A. Thakur and **M. S. Dhaka***, “Towards cost effective absorber layer to solar cells: Optimization of physical properties to Cu doped thin CdTe films”, Materials Letters (Elsevier Publications, Impact Factor: 3.02) 254 (2019) 141-144.
2. Himanshu, S.L. Patel, S. Chander, P. Singh, A. Thakur and **M. S. Dhaka***, “Bi-incorporated CdTe thin films for solar cells: Air annealing evolution to structural, optical, electrical and surface topographical properties”, Materials Letters (Elsevier Publications, Impact Factor: 3.02) 249 (2019) 29-32.
3. Subhash Chander and **M. S. Dhaka**, “Exploration of CdMnTe thin film solar cells”, Solar Energy (Elsevier Publications, Impact Factor: 4.67) 183 (2019) 544-550.
4. S.L. Patel, Himanshu, S. Chander, M.D. Kannan and **M. S. Dhaka***, “Impact of chloride treatment on the physical properties of polycrystalline thin CdTe films for solar cell applications”, Physics Letters A (Elsevier Publications, Impact Factor: 2.09) 383 (2019) 1778-1781.
5. S.L. Patel, Himanshu, S. Chander, A. Purohit, M.D. Kannan and **M. S. Dhaka***, “Understanding the physical properties of CdCl₂ treated thin CdSe films for solar cell applications”, Optical Materials (Elsevier Publications, Impact Factor: 2.67) 89 (2019) 42-47.
6. S. Chander, A.K. De and **M. S. Dhaka**, “Towards CdZnTe solar cells: An evolution to post-treatment annealing atmosphere”, Solar Energy (Elsevier Publications, Impact Factor: 4.67) 174 (2018) 757-761.
7. S.L. Patel, S. Chander, A. Purohit, M.D. Kannan and **M. S. Dhaka***, “Influence of NH₄Cl treatment on physical properties to CdTe thin films for absorber layer applications”, Journal of Physics and Chemistry of Solids (Elsevier Publications, Impact Factor: 2.75) 123 (2018) 216-222.
8. S.L. Patel, A. Purohit, S. Chander, M.D. Kannan and **M. S. Dhaka***, “An approach to MgCl₂ activation on CdSe thin films for solar cells”, Current Applied Physics (Elsevier Publications, Impact Factor: 2.01) 18 (2018) 803-809.
9. Kaushalya, S.L. Patel, A. Purohit, S. Chander and **M. S. Dhaka***, “Thermal annealing evolution to physical properties of ZnS thin films as buffer layer for solar cell applications”, Physica E (Elsevier Publications, Impact Factor: 3.18) 101 (2018) 174-177.
10. S.L. Patel, A. Purohit, S. Chander, M.D. Kannan and **M. S. Dhaka***, “Towards post-NH₄Cl treatment on CdSe thin films for solar cell Applications”, Vacuum (Elsevier Publications, Impact Factor: 2.52) 153 (2018) 43-47.
11. A. Purohit, S. Chander and **M. S. Dhaka***, “Thermal evolution of physical properties of evaporated CdS thin films for perovskite solar cell Applications”, Vacuum (Elsevier Publications, Impact Factor: 2.52) 153 (2018) 35-38.

12. S. Chander and **M.S. Dhaka***, “CdCl₂ treatment concentration evolution of physical properties correction with surface morphology of CdTe thin films for solar cells” *Materials Research Bulletin* (Elsevier Publications, Impact Factor: 3.36) 97 (2018) 128-135.
13. S. Chander and **M.S. Dhaka***, “Enhancement in microstructural and optoelectrical properties of thermally evaporated CdTe films for solar cells” *Results in Physics* (Elsevier Publications, Impact Factor: 3.04) 8 (2018) 1131-1135.
14. S. Chander and **M.S. Dhaka***, “Optical and structural constants of CdS thin films grown by electron beam vacuum evaporation for solar cells” *Thin Solid Films* (Elsevier Publications, Impact Factor: 1.89) 638 (2017) 179-188.
15. S. Chander and **M. S. Dhaka***, “Time evolution to CdCl₂ treatment on Cd-based solar cell devices fabricated by vapor evaporation”, *Solar Energy* (Elsevier Publications, Impact Factor: 4.67) 150 (2017) 577-583.
16. A. Purohit, S. Chander, S.L. Patel, K.J. Rangra and **M. S. Dhaka***, “Substrate dependent physical properties of evaporated CdO thin films for Optoelectronic Applications”, *Physics Letters A* (Elsevier Publications, Impact Factor: 2.09) 381 (2017) 1910-1914.
17. A. Purohit, S. Chander and **M. S. Dhaka***, “Impact of Annealing on Physical Properties of e-beam evaporated CdO thin films for Optoelectronic Applications”, *Optical Materials* (Elsevier Publications, Impact Factor: 2.69) 66 (2017) 512-518.
18. S. Chander and **M.S. Dhaka***, “Optimization of substrates and physical properties of CdS thin films for perovskite solar cell applications”, *Journal of Materials Science: Materials in Electronics* (Springer, Impact Factor: 2.20), 28 (2017) 6852-6859.
19. S. Chander, A. Purohit, S.L. Patel and **M.S. Dhaka*** “Effect of substrates on structural, optical, electrical and morphological properties of evaporated polycrystalline CdZnTe thin films” *Physica E* (Elsevier Publications, Impact Factor: 3.18) 89 (2017) 29-32.
20. S. Chander and **M.S. Dhaka*** “Thermal annealing induced physical properties of electron beam vacuum evaporated CdZnTe thin films” *Thin Solid Films* (Elsevier Publications, Impact Factor: 1.89) 625 (2017) 131-137.
21. S. Chander, A. Purohit, C. Lal and **M.S. Dhaka*** “Enhancement of optical and structural properties of vacuum evaporated CdTe thin films” *Materials Chemistry and Physics* (Elsevier Publications, Impact Factor: 2.78) 185 (2017) 202-209.
22. S. Chander and **M.S. Dhaka***, “Enhanced structural, electrical and optical properties of evaporated CdZnTe thin films deposited on different substrates”, *Materials Letters* (Elsevier Publications, Impact Factor: 3.02) 186 (2017) 45-48.
23. S. Chander and **M.S. Dhaka***, “Optimization of structural, optical and electrical properties of CdZnTe thin films with the application of thermal treatment”, *Materials Letters* (Elsevier Publications, Impact Factor: 3.02) 182 (2016) 98-101.

24. A. Purohit, S. Chander, A. Hameed, P. Singh and **M.S. Dhaka*** “Structural, dielectric and surface morphological properties of ball clay with wet grinding for ceramic electrical insulators” *Materials Chemistry and Physics* (Elsevier Publications, Impact Factor: 2.78) 181 (2016) 359-366.
25. S. Chander and **M.S. Dhaka***, “Thermal evolution of physical properties of vacuum evaporated polycrystalline CdTe thin films for solar cells”, *Journal of Materials Science: Materials in Electronics* (Springer, Impact Factor: 2.20) 27 (2016) 11961-11973.
26. S. Chander and **M.S. Dhaka***, “Effect of thickness on physical properties of electron beam vacuum evaporated CdZnTe thin films for tandem solar cells”, *Physica E* (Elsevier Publications, Impact Factor: 3.18) 84 (2016) 112-117.
27. S. Chander, A. Purohit, A. Hameed, P. Singh, M. Roy and **M.S. Dhaka*** “Thermal evolution of structural, dielectric and surface morphological properties of Ball clay for ceramic tiles” *Materials Focus* (American Scientific Publishers) 5 (2016) 464-470.
28. P. Joshi, L. Zhang, I. Hossain, H.A. Abbas, R. Kottokkaran, S. Nehra, **M. Dhaka**, M. Noack and V. Dalal “The physics of photon induced degradation of perovskite solar cells” *AIP Advances* (American Institute of Physics , Impact Factor: 1.58) 6 (2016) 115114 (1-6).
29. S. Chander and **M.S. Dhaka***, “Impact of thermal annealing on physical properties of vacuum evaporated polycrystalline CdTe thin films for solar cells applications”, *Physica E* (Elsevier Publications, Impact Factor: 3.18) 80 (2016) 62-68.
30. S. Chander and **M.S. Dhaka***, “Influence of thickness on physical properties of vacuum evaporated polycrystalline CdTe thin films for solar cells applications”, *Physica E* (Elsevier Publications, Impact Factor: 3.18) 76 (2016) 52-59.
31. A. Puohit, Subhash Chander, Satyapal Nehra, and **Mahendra Singh Dhaka***, “Thickness dependent physical properties of thermally evaporated nanocrystalline CdSe thin films”, *Acta Metallurgica Sinica (English Letters)* (Springer Publications, Impact Factor: 1.83) 28 (2015) 1299-1304.
32. S. Chander, A. Purohit, Anshu Nehra, S.P. Nehra and **M.S. Dhaka*** “Impact of temperature on performance of parallel and series connected mono-crystalline silicon solar cells” *Energy Reports* (Elsevier Publications, Impact Factor: 3.83), 1 (2015) 175-180.
33. S. Chander and **M.S. Dhaka***, “Physical properties of vacuum evaporated CdTe thin films with thermal annealing”, *Physica E* (Elsevier Publications, *Impact Factor: 3.18*) 73 (2015) 35-39.
34. S. Chander and **M.S. Dhaka***, “Optimization of physical properties of vacuum evaporated CdTe thin films with the application of thermal treatment for solar cells”, *Materials Science in Semiconductor Processing* (Elsevier Publications, *Impact Factor: 2.72*) 40 (2015) 708-712.

35. S. Chander and **M.S. Dhaka***, "Preparation and physical characterization of CdTe thin films deposited by vacuum evaporation for photovoltaic applications", *Advanced Materials Letters (VBRI Press)* 6(10) (2015) 907-912.
36. A. Purohit, S. Chander, Anshu Sharma, S.P. Nehra and **M. S. Dhaka***, "Impact of Low Temperature Annealing on Structural, Optical, Electrical and Morphological Properties of ZnO thin films by RF Sputtering for Eco-friendly Photovoltaic Applications", *Optical Materials (Elsevier Publications, Impact Factor: 2.69)* 49 (2015) 51-58.
37. S.P. Nehra, S. Chander, Anshu Sharma and **M.S. Dhaka***, "Effect of thermal annealing on physical properties of vacuum evaporated In₂S₃ buffer layer for eco-friendly photovoltaic applications", *Materials Science in Semiconductor Processing (Elsevier Publications, Impact Factor: 2.72)* 40 (2015) 26-34.
38. A. Purohit, S. Chander, S.P. Nehra, C. Lal and **M.S. Dhaka***, "Effect of thickness on structural, optical, electrical and morphological properties of thermally evaporated CdSe thin films", *Optical Materials (Elsevier Publications, Impact Factor: 2.69)* 47 (2015) 345-353.
39. S. Chander, A. Purohit, Anshu Nehra, S.P. Nehra and **M.S. Dhaka*** "A study on spectral response and external quantum efficiency of mono-crystalline silicon solar cell" *International Journal of Renewable Energy Research (Impact Factor: 1.26)* 5 (2015) 41-44.
40. A. Purohit, S. Chander, Anshu Nehra, Arvind, S.P. Nehra and **M.S. Dhaka*** "A study on the performance parameters of single crystalline silicon solar cell with irradiance" *Energy and Environment Focus (American Scientific Publishers)*, 4 (2015) 64-70.
41. A. Purohit, S. Chander, S.P. Nehra and **M. S. Dhaka*** "Effect of air annealing on structural, optical, morphological and electrical properties of thermally evaporated nanocrystalline CdSe thin films" *Physica E (Elsevier Publications, Impact Factor: 3.18)*, 69 (2015) 342-348.
42. S. Chander, A. Purohit, Anshu Nehra, Arvind, S.P. Nehra and **M.S. Dhaka*** "A study on the photovoltaic parameters of mono-crystalline Silicon solar cell with cell temperature" *Energy Reports (Elsevier Publications, Impact Factor: 3.83)*, 1 (2015) 104-109.
43. S. Chander, S. Choudhary, A. Purohit, Nisha Kumari, S.P. Nehra and **M.S. Dhaka*** "Effect of thickness on structural, optical and electrical properties of In₂S₃ thin films grown by thermal evaporation for solar cell buffer layer applications" *Materials Focus (American Scientific Publishers)* 4 (2015) 184-188.
44. S. P. Nehra, **M.S. Dhaka**, Anshu Sharma, Neeraj Kumar, Ritu Malik and M. Singh "Hydrogen induced effect on ZnTe/Co bilayer thin films" *Optoelectronics and Advanced Materials-Rapid Communications (Impact Factor: 0.47)*, 8 (2014) 143-148.

45. M.C. Mishra, G. Sharma, **M.S. Dhaka**, R.K. Kothari, K.B. Joshi and B.K. Sharma
“Electronic properties of ZnO: Band structure and Directional Compton profiles”
Journal of Electronic Materials (Springer, *Impact Factor: 1.68*), 42 (2013) 3429-3437.
46. A. Kumar, R. R. Choudhary, P. Bhardwaj, **M.S. Dhaka** and R.K.Choudhary
“Universal Pattern Set for Arithmetic Circuits” International Journal of Computer Applications (Foundation of Comp. Sc., USA, *Impact Factor : 0.71*), 40 (2012) 47-51.
47. R. Kumar, N. Munjal, G. Sharma, V. Vyas, **M.S. Dhaka** and B.K. Sharma
“Electron momentum density and phase transition in SrO” Phase Transitions (Taylor & Francis, *Impact Factor : 1.03*), 85 (2012) 1098-1108.
48. S. P. Nehra, Neeraj Kumar, Anshu Sharma, **M.S. Dhaka**, M. Singh, Y. Hayashi and Y.K.Vijay
“Preparation and Characterization of Structural, Electrical, Optical and Magnetic Properties of Hydrogenated Multilayer ZnO/Mn Diluted Magnetic Semiconductor Thin Films” Journal of Spintronics and Magnetic Nanomaterials (American Scientific Publishers), 1 (2012) 28-33.
49. S. P. Nehra, Neeraj Kumar, Anshu Sharma, **M.S. Dhaka**, M. Singh, Y. Hayashi and Y.K.Vijay
“Preparation and Characterization of Electrical, Optical and Magnetic Properties of Hydrogenated Multilayer ZnO/Co Diluted Magnetic Semiconductor Thin Films ” Materials Express (American Scientific Publishers, *Impact Factor : 1.47*), 1 (2011) 237-244.
50. G. Sharma, K.B. Joshi, **M.S. Dhaka**, M.C. Mishra, R.K. Kothari and B.K. Sharma
“Compton profile and charge transfer study in intermetallic Ti-Al system” Intermetallics (Elsevier Publications, *Impact Factor : 3.35*), 19 (2011) 1107-1114.
51. G. Sharma, V. Sharma, M.C. Mishra, **M.S. Dhaka** and B.K. Sharma
“Electron momentum density distribution in TiCu” Intermetallics (Elsevier Publications, *Impact Factor : 3.35*), 19 (2011) 666-670.
52. **M.S. Dhaka***, G. Sharma, M.C. Mishra, K.B. Joshi, R.K. Kothari and B.K. Sharma
“Electron momentum density distribution in Cd₃P₂” Computer Physics Communications (Elsevier Publications, *Impact Factor:3.31*),182 (2011) 2017-2020.
53. **M.S. Dhaka**, G. Sharma, M.C. Mishra, K.B. Joshi, R.K. Kothari and B.K. Sharma
“A study of electronic structure of CdSe by Compton Scattering Technique” Physica B (Elsevier Publications, *Impact Factor : 1.87*), 405 (2010) 3537-3542.
54. **M.S. Dhaka**, U. Paliwal, G. Sharma, M.C. Mishra, K.B. Joshi, R.K. Kothari and B.K. Sharma
“Ab initio determination of X-ray structure factors and the Compton profile of CdO” Journal of Alloys and Compounds (Elsevier Publications, *Impact Factor : 4.18*), 501 (2010) 136-142.

Conference proceedings:

55. S.L. Patel, Himanshu, A. Purohit, S. Chander and **M.S. Dhaka**, “Structural and Electrical Properties of Thin CdTe Films with the Application of CdCl₂ Activation” American Institute of Physics ‘Conference Proceedings’, In press (2019).
56. S.L. Patel, A. Purohit, S.Chander and **M.S. Dhaka**, “Optical properties and surface topography of CdCl₂ activated CdTe thin films” American Institute of Physics ‘Conference Proceedings’, 1953 (2018) 100048.
57. P. Joshi, L. Zhang, R. Kottokkaran, H. Abbas, I. Hossain, S. Nehra, **M. Dhaka**, M. Noack and V. Dalal “Physics of instability of perovskite solar cells” Photovoltaic Specialists Conference (PVSC), IEEE 43rd, (2016) 0242-0246.
58. S. Chander, A. Purohit, C. Lal, S.P. Nehra and **M.S. Dhaka**, “Impact of Thermal Annealing on Optical Properties of Vacuum Evaporated CdTe Thin Films for Solar Cells”, American Institute of Physics ‘Conference Proceedings’, 1728 (2016) 020590.
59. A. Purohit, S. Chander, C. Lal, S.P. Nehra and **M.S. Dhaka**, “Thickness Dependent Electrical and Optical Properties of CdSe Thin Films”, American Institute of Physics ‘Conference Proceedings’, 1728 (2016) 020591.
60. A. Purohit, S. Chander, A. Nehra, S.P. Nehra, C. Lal and **M.S. Dhaka** “Effect of thickness on structural and optical properties of CdSe thin films” American Institute of Physics ‘Conference Proceedings’, 1665 (2015) 080017.
61. A. Purohit, S. Chander, A. Nehra, S.P. Nehra, C. Lal and **M.S. Dhaka** “Effect of annealing on structural and optical properties of thermally evaporated CdSe thin films” American Institute of Physics ‘Conf. Proceedings’, 1661 (2015) 050009.
62. A. Purohit, A. Hameed, S. Chander, P. Singh, S.P. Nehra and **M.S. Dhaka** “Effect of wet grinding on the structural properties of Ball Clay” American Institute of Physics ‘Conference Proceedings’, 1661 (2015) 110011.
63. S. Chander, A. Purohit, Anshu Nehra, S.P. Nehra, and **M.S. Dhaka** “Performance of single crystalline Silicon solar cell with irradiance” American Institute of Physics ‘Conference Proceedings’, 1665 (2015) 120008.
64. S. Chander, A. Purohit, Anshu Nehra, S.P. Nehra and **M.S. Dhaka** “Influence of temperature on photovoltaic parameters of mono-crystalline Silicon solar cell” American Institute of Physics ‘Conf. Proceedings’, 1661 (2015) 050003.
65. **M.S. Dhaka**, G. Sharma, M.C. Mishra and B.K. Sharma “Electronic structure of polycrystalline Cd metal using ²⁴¹Am radioisotope” American Institute of Physics ‘Conference Proceedings’ 1591 (2014) P1075-1077.
66. **M.S. Dhaka**, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Compton Profile Study of Polycrystalline ZnBr₂” Published in American Institute of Physics ‘Conference Proceedings’ 1313 (2010) P221-223.
67. **M.S. Dhaka**, M. Sharma, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Study of Ionicity and Bonding in HgX₂ using Compton Scattering Technique”

Published in DAE and SSPS-2009 Proceedings, Badodara, INDIA, December 14-18, 2009, P 719-720.

In Conferences: Presented & Invited talks delivered

1. R.K. Kothari, R.K. Pandya, K.B. Joshi, M. Sharma, **M.S. Dhaka**, R. Jain and B.K. Sharma “Electronic Structure of BeTe and ZnTe” Presented at International Conference on Condensed Matter Physics, Jaipur, **INDIA**, Nov. 25-28, 2007, P 229.
2. **M.S. Dhaka**, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Electronic Structure of Polycrystalline ZnBr₂” Presented at National Conference on “Recent Trends in Chemical Sciences”, Churu, **INDIA**, December 1-2, 2009, P 61.
3. **M.S. Dhaka**, M. Sharma, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Study of Ionicity and Bonding in HgX₂ using Compton Scattering Technique” Presented at DAE and SSPS-2009, Badodara, **INDIA**, December 14-18, 2009.
4. **M.S. Dhaka**, G. Sharma, M. C. Mishra, K. B. Joshi, R.K. Kothari and B.K. Sharma “Electron momentum density distribution in Cd₃P₂” Presented at Conference on Computational Physics, NTNU, Trondheim, **NORWAY**, June 23-26, 2010, P 363.
5. S. P. Nehra, **M.S. Dhaka** and M. Singh “Preparation and characterization of hydrogenated ZnTe/Co bilayer nanostructured DMS thin films” Presented at Conference on Metrology and Characterization of Nanoparticles, IoP, London, **U.K.**, June 28, 2010, P 9.
6. **M.S. Dhaka**, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Compton Profile Study of Hg₂Cl₂” Presented at IoP, Photon, University of Southampton, **U.K.**, August 23-26, 2010.
7. **M.S. Dhaka**, G. Sharma, M. C. Mishra, R.K. Kothari and B.K. Sharma “Compton Profile Study of Polycrystalline ZnBr₂” Presented at International Conference on Physics of Emerging Functional Materials, BARC, Mumbai, **INDIA**, September 22-24, 2010.
8. **M.S. Dhaka** “Electronic structure calculation using Compton scattering probe: An overview” Invited talk delivered at International Conference on Ceramics, ECB, Bikaner, **INDIA**, December 12-13, 2013.
9. **M.S. Dhaka**, G. Sharma and B.K. Sharma “Electron momentum density distribution in polycrystalline Cd metal” Presented at International Conference on Recent Trends in Applied Physics Material Science, CET, Bikaner, **INDIA**, February 1-2, 2013.
10. **M.S. Dhaka**, G. Sharma, M.C. Mishra and B.K. Sharma

- “Electronic structure of polycrystalline Cd metal using ^{241}Am radioisotope” Presented at DAE-SSPS, Thapar University, Patiala, **INDIA**, December 17-21, 2013.
11. **M.S. Dhaka**, “Structural properties of Ball clay” National Conference on Materials Science, Gangrar, Chittorgarh, INDIA, October 17-18, 2014.
 12. **M.S. Dhaka**, “Thin film technology and CdTe solar cells” National Seminar on Nanotechnology for Energy and power sector, Udaipur, INDIA, November 16, 2017.
- **Visited abroad:** *Norway, U.K. and USA.*
 - **Nominated** as **UGC nominee** on the **Governing Body** of the PSG College of Technology, Coimbatore, Tamilnadu for six years (2016-22).
 - **Expert member**, Selection Committee for Assistant Professor, College Education at Rajasthan Public Service Commission, Ajmer, 2017.
 - **Expert member** on the Selection Committee for the Assistant Professor, Associate Professor and Professor through Career Advancement (CAS) scheme at The M.S. University Baroda, Vadodara during December, 2018.
 - **Reviewer of international journals:**
 1. Sustainable Energy and Fuels (Royal Society of Chemistry)
 2. Materials Science in Semiconductor Processing (Outstanding reviewer, 2018)
 3. Optical Materials (Elsevier)
 4. Applied Physics A (Springer)
 5. Indian Journal of Physics (Springer)
 6. Physica Status Solidi A (Wiley)
 7. Physics Letters A (Outstanding Reviewer, 2018)
 8. Materials Letters (Elsevier)
 9. Results in Physics (Outstanding Reviewer, 2018)
 10. Journal of Crystal Growth (Elsevier)
 11. Micro & Nano Letters
 12. Vacuum (Outstanding Reviewer, 2017)
 13. Solar Energy (Elsevier)
 14. Energy and Environment
 15. Materials Science and Engineering B (Outstanding Reviewer, 2017)
 16. Journal of Alloys and Compounds (Outstanding Reviewer, 2018)
 17. Optik-IJLEO (Elsevier)
 18. Materials Research Express (IoP, UK)
 19. Solar Energy Materials and Solar Cells (Outstanding Reviewer, 2018)
 20. Journal of Materials Science: Materials in Electronics (Springer)
 21. Energy (Elsevier)

22. Physica B: Condensed Matter (Elsevier)
 23. Physica E: Low Dimens. Systems and Nanos. (Outstanding Reviewer, 2018)
 24. Journal of Nanostructure in Chemistry
 25. Micro and Nano Letters
 26. Journal of Inorganic and Organometallic Polymers and Materials
 27. Thin Solid Films (Elsevier)
 28. Phase Transition (Taylor and Francis)
 29. Surface & Coating Technology (Outstanding Reviewer, 2018)
 30. Applied Energy (Award of Outstanding Contribution in Reviewing, 2018)
 31. Rare Metals (Springer)
 32. Semiconductor Science and Technology
 33. Materials Science and Technology
 33. Chemical Physics Letters (Elsevier)
 34. Journal of Semiconductors (IoP Publishing)
 35. Ceramic International (Elsevier)
- **Administrative duties at earlier Institution (Engineering College Bikaner):**
 1. Head, Department of Physics (Since Sept. 22, 2006 to Aug. 8, 2011).
 2. Head, Sports & Games, ECB (Since April 22, 2005 to Sept. 26, 2011).
 3. Welfare Officer (Since July 19, 2006 to March 16, 2012).
 4. Public Relation Officer (Since Feb. 26, 2007 to June 10, 2010).
 5. Head, Sports & Games, CET (Since Feb. 12, 2009 to July 13, 2010).
 - **Admin. Duty at earlier Institution (Shekhawati Engg. College, Dundlod):**
 1. Head, Department of Physics (Since July 1, 2003 to March 9, 2005).
 - **Member, Jury**, State Level Science Fair (SIERT, Udaipur, Raj.) during 2005-09.
 - **Director**, Physics Aptitude Test (PAT) - 2005, Organized by RPA at state level.
 - NCC 'C' Certificate, NSS two years and one special ten days camp.
 - **Member, Board of Studies, Rajasthan Technical University, Kota**
(Since 01-12-2006 to 30-11-2009)
 - Conferences organized during last fifteen years in various areas of Physical and Engineering Science: - **National and International**

S.N.	Title of the Event/Venue	Nature/ Duration	Position Held	Organizers	Sponsors
1.	National Conference on "Physics" Dundlod, Jhunjhunu	National December 14, 2003	Convener	Shekhawati Engineering College, Dundlod	Shekhawati Engineering College, Dundlod
2.	National Conference on " How to Make Physics Popular " Khatushyamji, Sikar	National November 26-27, 2004	Organizing Secretary	Rajasthan Physics Association	Rajasthan Physics Association

S.N.	Title of the Event/Venue	Nature/ Duration	Position Held	Organizers	Sponsors
3.	International Conference on “ Physics for World and Society ” <i>Bikaner, Jaipur</i> Keynote Speaker: Prof. Yash Pal	International & Satellite <i>December</i> <i>2-4,2005</i>	Convener	Rajasthan Physics Association, University of Rajasthan, Jaipur & Engg. Coll., Bikaner	DST, New Delhi DRDO, New Delhi DST, Rajasthan ISRO, Bangalore CSIR, New Delhi
4.	International Workshop on “ Laboratory Innovations in Physics ” <i>Ajmer</i> Keynote Speaker: Dr.S.K.Sikka	International <i>August</i> <i>11-12,2006</i>	Organizing Secretary	Rajasthan Physics Association & Govt. College, Ajmer	DST, New Delhi DRDO, New Delhi DST, Rajasthan ISRO, Bangalore BRNS, Mumbai
5.	BECATECH-06 “ Paper and Model Presentation ” <i>Bikaner</i>	National <i>August 24-</i> <i>25, 2006</i>	Member, Steering Committee	Engineering College, Bikaner	ISTE, New Delhi
6.	National Conference on ‘ Computational Technique in Decision Making ’ <i>Bikaner</i>	National <i>October 6-8,</i> <i>2006</i>	Member, Organising Committee	Engineering College, Bikaner	DRDO, New Delhi AICTE, New Delhi ISRO, Bangalore
7.	Workshop on “ Computational Physics ” <i>Jodhpur</i>	National <i>October</i> <i>12-16, 2006</i>	Member, Advisory Board	J.N. Vyas University, Jodhpur	UGC, New Delhi IAPT
8.	International Conference on “ Bio Fuel Vision 2015 ” <i>Bikaner</i>	International <i>October</i> <i>13-15,2006</i>	Co- ordinator (Organizatio n)	Engineering College, Bikaner	DST, New Delhi AICTE, New Delhi DST, Rajasthan CSIR, New Delhi
9.	International Conference on “ Recent Advancements and Application of Computer in Electrical Engineering ” <i>Bikaner</i>	International <i>March 24-</i> <i>25, 2007</i>	Member, Local Organising Committee	Engineering College, Bikaner	DST, New Delhi DRDO, New Delhi CSIR, New Delhi AICTE, New Delhi IEEE etc.
10.	International Conference on “ Condensed Matter Physics ” <i>Jaipur</i> Keynote Speaker: Dr.S.K.Sikka,SS,PSA,GoI, New Delhi; Plenary: Nobel Laureate Prof. Douglas D. Osheroff, Stanford University, USA	International <i>November</i> <i>25-28, 2007</i>	Convener	Rajasthan Physics Association, University of Rajasthan, Jaipur, University of Bikaner, Bikaner & Engineering College, Bikaner	DST, New Delhi AICTE, New Delhi CSIR, New Delhi DRDO, New Delhi BRNS, Mumbai INSA, New Delhi ISRO, Bangalore etc.
11	National Seminar on “ Recent Trends in Nuclear Sciences ” <i>Bikaner</i> Keynote Speaker: Dr. J.V.Yakhmi, Chairman, BSC, BRNS, Mumbai	National <i>January 19,</i> <i>2008</i>	Convener	University of Bikaner, Bikaner	CSIR, New Delhi DRDO, New Delhi etc.

S.N.	Title of the Event/Venue	Nature/ Duration	Position Held	Organizers	Sponsors
12	National Symposium on “ Global Warming ” <i>Bikaner</i>	National <i>March 5, 2008</i>	Member, Advisory Committee	Engineering College, Bikaner	DRDO, New Delhi AICTE, New Delhi etc.
13	National Workshop on “ Microwave Sciences ” <i>Bikaner</i> Keynote Speaker: Prof. S. Sarkar	National <i>April 20, 2008</i>	Chief Advisor	Engineering College, Bikaner	CSIR, New Delhi DRDO, New Delhi etc.
14	“ ISC-2009 ” <i>Bikaner</i> (Postponed and organized during Sept. 5-6, 2009)	National <i>August 28-29, 2009</i>	Member, Technical Advisory Committee	Engineering College, Bikaner	ISTE, New Delhi
15	National Workshop on “ Characterization Techniques in Material Science ”	National <i>February 1-3, 2012</i>	Member, Organising Committee	Engineering College, Bikaner	BRNS, Mumbai DRDO, New Delhi etc.
16	International Conference on “ Ceramics ”	International <i>December 12-13, 2012</i>	Member, International Advisory Board	Engineering College, Bikaner	DST, New Delhi CSIR, New Delhi DRDO, New Delhi
17	National Workshop on “ Materials Characterization ”	National <i>March 26-28, 2015</i>	Member, Organising Committee	Deptt. of Physics, M.L.S. University, Udaipur	UGC, New Delhi

● **Participation in Conferences/Workshop/Symposium/Seminar/STC:**

- National Conference on Physics, Dundlod, Jhunjhunu, Rajasthan, INDIA, December 14, 2003.
- National Conference on ‘How to make Physics Popular’, Khatushyamji, Rajasthan, INDIA, November 26-27, 2004.
- National Symposium on Science and Technology for Desert Development, Jaipur, INDIA, December 2-4, 2004.
- National Seminar on Physics for Physical World; Jaipur, INDIA, November 29, 2005.
- International Conference on Physics Education, World View on Physics Education in 2005: Focusing on Change; New Delhi, INDIA, August 21-26, 2005.
- International Conference on Physics for World and Society, Bikaner & Jaipur, INDIA, December, 2-4, 2005.
- Short Term Course on Curriculum Development Processes, Bikaner, INDIA, December 26-30, 2005.
- International Workshop on Laboratory Innovations in Physics, Ajmer, INDIA, August 11-12, 2006.

- National Conference on Computational Technique in Decision Making, Bikaner, INDIA, October 6-8, 2006.
- International Conference on Bio Fuel Vision-2015, Bikaner, INDIA, October 13-15, 2006.
- Short Term Course on Project Planning and Education, Bikaner, INDIA, November 20-24, 2006.
- International Conference on Recent Applications and Advancements of Computer in Electrical Engineering, Bikaner, INDIA, March 24-25, 2007.
- International Conference on Condensed Matter Physics, Jaipur, INDIA, November 25-28, 2007.
- National Seminar on Recent Trends in Nuclear Sciences, Bikaner, INDIA, January 19, 2008.
- Short Term Course on Mat Lab, Bikaner, INDIA, March 10-14, 2008.
- National Symposium on Global Warming, Bikaner, INDIA, March 5, 2008.
- National Seminar on Microwave Sciences, Bikaner, INDIA, April 20, 2008.
- Short Term Course on Power Electronics, Bikaner, INDIA, May 5-9, 2008
- National Seminar on Recent Advancement on Chemical Sciences, Churu, INDIA, December 1-2, 2009.
- DAE Solid State Physics Symposium, Vadodara, INDIA, Dec.14-18,2009.
- Conference on Computational Physics, Trondheim, NORWAY, June 23-26, 2010.
- Conference on Metrology and Characterization of Nanoparticles, London, U.K., June 28, 2010.
- Conference 'PHOTON-10, Southampton, U.K., August 23-26, 2010.
- International Conference on Physics of Emerging Functional Materials, BARC, Mumbai, INDIA, September 22-24, 2010.
- Short Term Course on Developing Generic Skills, Bikaner, INDIA, September 12-16, 2011.
- Short Term Course on ASP.NET, Bikaner, INDIA, October 17-21, 2011.
- Short Term Training Programme on Instrumental Methods of Chemical Analysis, Bikaner, INDIA, February 13-17, 2012.
- National Conference on Innovative & Emerging Technologies in Computing Methodology-2012, Bikaner, INDIA, April 6-7, 2012.
- Training Programme on Research Methodologies-2012, Udaipur, INDIA, April 21-27, 2012.
- International Conference on Ceramics-2012, Bikaner, INDIA, December 12-13, 2012.
- International Conference on Recent Trends in Applied Physics and Material Science, Bikaner, INDIA, February 1-2, 2013.
- DAE Solid State Physics Symposium, Patiala, INDIA, Dec.17-21, 2013.

- National Conference on Materials Science, Gangrar, Chittorgarh, INDIA, October 17-18, 2014.
- International Conference on Condensed Matter Physics, Shimla, INDIA, November 4-6, 2014.
- National conference on Advances in Materials Science and Technology, Bhilwara, INDIA, December 22-23, 2014.
- **Trainings taken at the Iowa State University, Ames, Iowa, USA during Raman Fellowship** (Online and instructor lead) organized by Department of Environment Health and Safety:
 - Fire safety and extinguisher training (online), September 21, 2015.
 - Biohazardous materials: An introduction (online), September 21, 2015.
 - Laboratory safety: Chemical storage (online), September 21, 2015.
 - Laboratory safety: Compressed gas cylinders (online), September 21, 2015.
 - Fire safety and extinguisher training (instructor lead), September 22, 2015.
 - Laboratory safety: Core concept (online), September 22, 2015.
 - Laboratory safety: Fume hoods (online), September 22, 2015.
 - Laboratory safety: Spill procedures (online), September 22, 2015.
 - Liquid nitrogen facility safety training (online), September 22, 2015.
 - Nanotechnology safety (online), September 23, 2015.
 - Waste and recycling guidelines for laboratory personnel (online), September 23, 2015.
 - Personal protective equipment (online), September 24, 2015.
 - Worker right-to-know OSHA hazard communication standard training (online), September 24, 2015.
 - Office ergonomics (online), September 28, 2015.
 - Fall protection (instructor lead), October 6, 2015.
 - Respirator- Initial Certification (instructor lead), October 15, 2015.
 - Laboratory safety: Laboratory inspections (instructor lead), February 16, 2016.
 - Lead awareness training (instructor lead), August 4, 2016.

Special Achievement (s):

Nominated as UGC nominee on the Governing Body of the PSG College of Technology, Coimbatore, Tamilnadu for six years (2016-22).

Research Projects (s):**1. Completed:**

- i. University Grants Commission (UGC), New Delhi funded Major Research Project (MRP) for an amount of Rs. 11.50 Lakhs for a period of four years (from April 1, 2013 to March 31, 2017, one year extended) entitled “Growth and characterization of CdTe Thin films for photovoltaic applications” is completed on March 31, 2017.

2. Ongoing:

- i. Science and Engineering Research Board (SERB) funded Extramural Research (EMR) Project entitled “A study on the physical properties to the chlorine treated Cd-based compound semiconductor thin films correlation with surface morphology for solar cell applications” since June 27, 2018 for an amount of Rs. 34.42 Lakhs for a period of three years.
- ii. Department of Science and Technology (DST), Rajasthan funded research and development (R&D) project entitled “Growth and characterization of Zn-based compound semiconductor thin films as buffer layer for solar cell applications” since April 1, 2018 for an amount of Rs. 7.00 Lakhs for a period of three years.

Overseas visits:

S. N.	Address of overseas institute	Duration		Agency which sponsored the visit	Purpose of visit/Brief objective of the work done	Achievement /Outcome
		From	To			
1	NTNU, Trondheim, NORWAY	June 23, 2010	June 26, 2010	Self	To attend Conference on Computational Physics and to present my research paper entitled “Electron momentum density distribution in Cd ₃ P ₂ ”	Presented a research paper and interacted with few eminent Physicist of Computational techniques.
2	Institute of Physics, London, U.K.	June 28, 2010	June 28, 2010	Self	To attend Conference and to present my research paper	Presented a research paper and interacted with few eminent Physicist of nanotechnology.
3	University of Southampton, Southampton, U.K.	August 23, 2010	August 26, 2010	DST, New Delhi	To attend Conference “Photon 10” and to present my research paper entitled “Compton Profile Study of Hg ₂ Cl ₂ ”	Presented a research paper and interacted with few eminent Physicist of Photonics and Optics.
4	Iowa State University,	Sept.15, 2015	Sept.14, 2016	UGC, New	To pursue Raman Postdoctoral Fellowship	Worked on the CdS/CdTe and

	Ames, Iowa, USA			Delhi		Perovskite solar cells.
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Ph.D. Alumni and Scholars:

Produced/ Alumni: 02, presently working: 10.

Ph.D. Alumni: 02

1. **Dr. Subhash Chander** (Awarded on February 22, 2017),
(Recipient of the BASE Internship-2016 of the IUSSTF, presently PDF, IISER, Mohali)
2. **Dr. Anuradha Purohit** (Awarded on August 18, 2017).
(Recipient of the IAAM best poster award-2017)

Ph.D. Scholars: 10

1. **Mr. Shankar Lal Patel** (Working since March 25, 2015)
(Project Fellow, DST-SERB, EMR Project since July 19, 2018).
2. **Ms. Divya Agrawal** (Working since April 22, 2017, NET CSIR-2017)
3. **Mr. Himanshu** (Working since April 19, 2017)
(DST INSPIRE FELLOW 2018-2023 since May 13, 2017).
4. **Ms. Sakshi Chuhadiya** (Working since April 20, 2018, NET JRF CSIR-2017)
(CSIR Junior Research Fellow since August 6, 2018).
5. **Mr. Gaurav Chasta** (Working since April 26, 2018, NET CSIR-2017)
6. **Ms. Ritika Sharma** (Working since April 20, 2018).
7. **Mr. Kamlesh** (Working since April 27, 2018).
8. **Mr. Deepak Suthar** (Working since April 23, 2018).
(Junior Research Fellow, DST Rajasthan R&D Project since October 13, 2018).
9. **Ms. Anju Choudhary** (under course work, allotted year 2019)

August 5, 2019

Mahendra Singh Dhaka
Udaipur, INDIA