

Madan Lal, Ph. D. (Physics)

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PROFESSIONAL EXPERIENCE

Sr. No.	Position and Organization	Nature of Job	Period
1.	Assistant Professor, Eternal University, Baru Sahib, Sirmour (HP), India.	Teaching and Research	6 th August 2018 - Present

ACADEMIC QUALIFICATION

- **Ph.D. (Physics) in 2018:** Shoolini University of Biotechnology and Management Sciences, Distt. Solan (HP) 173229.
Thesis Title: [Study the Structural and Electrical Properties of Lead-Free Composite Systems.](#)
- **M. Sc. (Physics) in 2014:** Shoolini University of Biotechnology and Management Sciences, Solan (HP) 173229, India.
Thesis Title: [To Study decay process of Z boson into beauty quarks using Monte Carlo Event Generation at LHC](#)
- **B. Ed. (Non-Med) in 2012:** Himachal Institute of Education, Himachal Pradesh University, Shimla (HP) 171005, India.
- **B. Sc. (Non-Med) in 2011:** Govt. P. G. College Solan, Himachal Pradesh University, Shimla (HP) 171005, India.
- **12th (Non-Medical) in 2008:** Govt. Boys Senior Secondary School, Solan, HP, India.

RESEARCH AREAS

- **Material Science and NanoTechnology:** Dilute Magnetic Semiconductors, Multiferroics, Semiconducting Nanostructured Materials, nanocomposites, Ceramics, Ceramic-composites, etc.

PUBLICATIONS

1. **Madan Lal**, Priyanka Thakur, Prashant Thakur, Navdeep Sharma, Pankaj Sharma, and Anoop Kumar Shukla, “Rietveld Refined Structural, Dielectric, and Impedance Properties of Lead-free $1-x(\text{K}_{0.4}\text{Na}_{0.6}\text{Nb}_{0.96}\text{Sb}_{0.04}\text{O}_3)-x(\text{Bi}_{0.5}\text{K}_{0.5}\text{TiO}_3)$ ($0.00 \leq x \leq 0.07$) Composites” **Journal of Materials Science Materials in Electronics**, **2023**,**34**(15)<http://dx.doi.org/10.1007/s10854-023-10580-x>(ISSN: 1573-482X; Impact Factor 2.779).
2. Priyanka Thakur, Kritika Gupta, Prashant Thakur, Ajith S Kumar, VivekSudarsanan, Pankaj Sharma and **Madan Lal**, “Improvement in the Structural, Dielectric, and Magnetic Properties of CFO-doped KNNS-BKT Ceramics”.**Journal of Materials Science Materials in Electronics**, **2023**, **34**(4)<http://dx.doi.org/10.1007/s10854-022-09782-6>(ISSN: 1573-482X; Impact Factor 2.779).
3. Sarir Uddin, Shah Faisal, Abid Zaman, Vineet, Tirth, Priyanka Thakur and **Madan Lal**, “Investigation of Impact of Zr-doping on the Structural and Microwave Dielectric Properties of CaTiO_3 Ceramics”. **Journal of Optical Materials**,**135**, **2023**<https://doi.org/0.29169/1927-5129.2022.18.06>(ISSN: 0925-3467; Impact Factor: 3.754).
4. Khushboo Thapa, Priyanka Thakur, Navdeep Sharma, Sanjeev Sharma, Asad Ali, Abid Zaman, and **Madan Lal**, “Structural and Dielectric Properties of Ba-Doped BNT Ceramics”. **Journal of Basic and Applied Sciences**, **18**, **2022**, 47-57<https://doi.org/10.29169/1927-5129.2022.18.06>(ISSN: 1927-5129).
5. A. Ahmad, Abid Zaman, N. Akhtar, M. Kamran, N. Nazir, L. Ben Farhat, Asad Ali, Muhammad Mushtaq, F. Sultana, **Madan Lal**, Khaled Althubeiti, “Effect of Cu_2O nano-particles on the temperature sensing and optical switching of poly-(dioctyl-fluorene)”. **Digest Journal of Nanomaterials and Biostructures**, **16**(4), **2021**, (ISSN: 1842-3582; Impact Factor: 0.899).
6. Asad Ali, Sarir Uddin, **Madan Lal**, Abid Zaman, Zafar Iqbal, and Khaled Althubeiti, “Structural, optical and microwave dielectric properties of $\text{Ba}(\text{Ti}_{1-x}\text{Sn}_x)_4\text{O}_9$, $0 \leq x \leq 0.7$ ceramics”. **Scientific Reports**, **2021**<https://doi.org/10.1038/s41598-021-97584-x>(ISSN: 2045-2322; Impact Factor 4.996).
7. Khalid Bashir, Nasir Mehboob, Asad Ali, Abid Zaman, Muhammad Ashraf, **Madan Lal**, Khaled Althubeiti, and Muhammad Mushtaq, “Fabrication and Characterization of $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$ Thin Films for Photovoltaic Applications. **Journal of Materials Letters**, **2021**, **304**,<https://doi.org/10.1016/j.matlet.2021.130737>(ISSN: 0167-577X; Impact Factor 3.574).

8. Manpreet Kaur, Vishesh Kumar, Prabhsharan Kaur, **Madan Lal**, Puneet Negi, Rakesh Sharma, “Effect on the Dielectric Properties due to In-N co-doping in ZnO nanoparticles”. **Journal of Materials Science Materials in Electronics**. 2021 pp. 1-14 <https://doi.org/10.1007/s10854-021-05570-w>. (ISSN: 1573-482X; Impact Factor 2.779).
9. Asad Ali, Sarir Uddin, Zafar Iqbal, **Madan Lal**, Abid Zaman, “Structural, Optical and Microwave dielectric properties of barium tetra titanate (BaTi₄O₉) Ceramics”. *Journal of Optoelectronics and Advanced Materials*. 2021 23(1-2) pp. 48-52 (ISSN: 1841-7132; Impact Factor 0.631).
10. Asad Ali, Sarir Uddin, Zafar Iqbal, **Madan Lal**, Muhammad Hasnain Jameel, Abid Zaman, Abid Ahmad, and Waqas Khan, “Synthesis and characterizations of (Ba_{1-x}Ca_x)Ti₄O₉, 0 ≤ x ≤ 0.9 ceramics”. **Journal of Materials Research and Technology**. 2021 (11) pp. 1828-1833 <https://doi.org/10.1016/j.jmrt.2021.01.126>(ISSN: 2214-0697; Impact Factor 6.267).
11. Sapna Thakur, Manpreet Kaur, Way Foong Lim, **Madan Lal**, “Fabrication and Characterization of Electrospun ZnO nanofibers; Antimicrobial assessment”. **Journal of Materials Letters**, 2020, 264(127279). <https://doi.org/10.1016/j.matlet.2019.127279>(ISSN: 0167-577X; Impact Factor 3.574).
12. Poonam Kumari, **Madan Lal**, Sunil Kumar, Radheshyam Rai, Anupinder Singh, D. V. Karpinsky, and Igor Bdikin, “Comprehensive investigation of structural, dielectric and local piezoelectric properties of KNN ceramics”. **Journal of Advanced Dielectrics**, 2019 pp. 1950016. <https://doi.org/10.1142/S2010135X19500164> (ISSN: 2010-1368).
13. **Madan Lal**, Mamta Shandilya, Radheshyam Rai, Anand Ranjan, Seema Sharma, and M.A. Valente “Study of Structural, Electrical and Magnetic properties of 1-x(Ba_{0.96}Ca_{0.04}TiO₃)-x(BiFeO₃) ceramic composites”. **Journal of Materials Science Materials in Electronics**, 2018 29(16) pp. 13984-14002. <https://doi.org/10.1007/s10854-018-9531-0>(ISSN: 1573-482X; Impact Factor 2.779).
14. **Madan Lal**, Mamta Shandilya, Ajith S Kumar, Radheshyam Rai, Swapna S. Nair, and Ratnakar Palai, “Study of Structural and Magnetoelectric properties of 1-x(Ba_{0.96}Ca_{0.04}TiO₃)-x(ZnFe₂O₄) ceramic composites”. **Journal of Materials Science Materials in Electronics**, 2017 29(1) pp.80–85. <http://dx.doi.org/10.1007/s10854-017-7890-6>. (ISSN: 1573-482X; Impact Factor 2.779).

15. **Madan Lal**, M Chandrasekhar, Radheshyam Rai, and Pawan Kumar, “Structural, Dielectric and Impedance studies of KNNS–BKT Ceramics.” **American Journal of Materials Science**, 2017 7(2), pp. 25-34. <http://dx.doi.org/10.5923/j.materials.20170702.01> (ISSN: 2162-8424).

INTERNATIONAL/ NATIONAL CONFERENCE FULL PAPERS

16. Priyanka Thakur, Arzoo Parveen, Manpreet Singh, Kamal Kishore, Sanjeev Sharma, and **Madan Lal**, “Effect of Fe-doping on the Structural, Morphological, and Magnetic Properties of ZnO NPs”. **Springer Proceedings in Materials (book series)**, 2023, (ISSN: 2662-3161) (**Accepted**).

17. Priyanka Thakur, Prashant Thakur, Kamal Kishore, Manpreet Singh, Sanjeev Sharma, Priyanka Sharma, Pankaj Sharma, and **Madan Lal**, “Structural, Morphological, and Magnetic Properties of CoFe₂O₄ Nano-Ferrites Synthesized via Co-precipitation route”. **Journal of Materials Today Proceedings**, 2023, (ISSN: 2214-7853) (Scopus). <https://doi.org/10.1016/j.matpr.2022.12.233>

BOOK CHAPTER

1. Smart Material Nanofibers for Day to Day Life.

Madan Lal, Mamta Shandilya, Seema Sharma, and Radheshyam Rai
“Smart Materials for Smart Living”, Ed. Radheshyam Rai, Nova Science Publishers, USA, 2017, ISBN: 978-1-53612-269-5 (Hardcover) ISBN: 978-1-53612-280-0 (e-book).

https://www.novapublishers.com/catalog/product_info.php?products_id=62691&osCsid=aabb2ec361718a708349a7426060c032

2. Possible Applications of Zinc and Titanium in Modern Life.

Anjali Sharma, **Madan Lal**, Naheed Ahmad, and Radheshyam Rai
“Smart Materials for Smart Living”, Ed. Radheshyam Rai, Nova Science Publishers, USA, 2017, ISBN: 978-1-53612-269-5 (Hardcover) ISBN: 978-1-53612-280-0 (e-book)

https://www.novapublishers.com/catalog/product_info.php?products_id=62691&osCsid=aabb2ec361718a708349a7426060c032

3. High Dielectric Materials for Supercapacitors.

Poonam Kumari, Mamta Shandilya, **Madan Lal**, and Radheshyam Rai.
“Smart Materials for Smart Living”, Ed. Radheshyam Rai, Nova Science Publishers, USA, 2017, ISBN: 978-1-53612-269-5 (Hardcover) ISBN: 978-1-53612-280-0 (e-book)

https://www.novapublishers.com/catalog/product_info.php?products_id=62691&osCsid=aabb2ec361718a708349a7426060c032

4. Piezoelectric Electroceramic Perovskites and Their Applications.

Poonam Kumari, **Madan Lal**, Shashi Prakash Rai, and Radheshyam Rai.

“Smart Materials for Smart Living”, Ed. Radheshyam Rai, Nova Science Publishers, USA, 2017, **ISBN: 978-1-53612-269-5** (Hardcover) **ISBN: 978-1-53612-280-0** (e-book)

https://www.novapublishers.com/catalog/product_info.php?products_id=62691&osCsid=aabb2ec361718a708349a7426060c032

5. Biosynthesis of Nanoparticles Using Plant Extracts.

Sapna Thakur, Shweta Thakur, Mamta Shandilya, **Madan Lal**, and Radheshyam Rai
“Smart Materials for Smart Living”, Ed. Radheshyam Rai, Nova Science Publishers, USA, 2017, **ISBN: 978-1-53612-269-5** (Hardcover) **ISBN: 978-1-53612-280-0** (e-book)

https://www.novapublishers.com/catalog/product_info.php?products_id=62691&osCsid=aabb2ec361718a708349a7426060c032

PATENTS FILED/SUBMITTED

Sr. No.	Title	Authors	File no	Status
1.	Improved Process For The Synthesis of Electrospun Pure ZnO nanofibers at Low Temperature.	Dr. Madan Lal , Dr. Manpreet Kaur, and Dr. Mamta Shandilya	202011051 235A	Published

RESEARCH GUIDANCE (Supervisor)

Sr. No.	Name of Student (Registration No.)	Title of Research	Thesis status
Ph. D. (Physics)			
1.	Priyanka Thakur (BS20PSPHY003)	To investigate the structural, electrical, and magnetic properties of CoFe_2O_4 , BaTiO_3 and their based composites	Pursuing
M. Sc. (Physics)			
1.	Ayushi Sharma (BS20MSPHY002)	Synthesis and Characterization of Bismuth Sodium Titanate Based Materials.	Completed
2.	Arzoo Parveen (BS19MSPHY003)	Synthesis and Characterization of Fe-doped ZnO Nanoparticles via Sol-Gel Method.	

3.	Shreya Chauhan (BS18MSPHY006)	Green synthesis and Characterization of Fe-doped ZnO Nanoparticles.	
4.	Kritika Gupta (BS18MSPHY009)	Synthesis and Characterization of KNN-based Materials.	
5.	Khushboo Thapa (BS18MSPHY003)	Synthesis and Characterization of Ba-doped BNT Ceramics.	

FELLOWSHIP/ ACHIEVEMENTS/ AWARDS

- **Editor of Journal of PriMera Scientific Engineering (ISSN: 2834-2550).**
- **Junior Research Fellowship (JRF)** under the **DRDO Funded Project** entitled “**Development of Lead-free Piezoelectric Nanofibers via Electrospinning for Piezoelectric Energy Harvesting**”, Sponsored by **DRDO New Delhi** in the School of Physics & Materials Science at Shoolini University, Solan (H.P) India from 16-02-2016 to 06-06-2017, **28,750/- Rs (1.3 years) 1Y, 3M, 21 D.**
- Received **certificate of merit** for standing **first in Physics** from college in H.P. University Final examination in March 2009.
- Participated in the **Boys District-Zonal Tournament (Basketball)** level from 26-09-2006 to 29-09-2006.

WEBINARS/WORKSHOPS/SYMPOSIUMS/ CONFERENCES

- A Webinar on “**Layered Mxenes Based 2D Materials**” delivered by Dr. Sunil Kumar of the Department of Nanotechnology and Advanced Materials Engineering, Sejong University, Seoul, South Korea, organized by the Department of Physics, School of Basic & Applied Sciences Maharaja Agersen University, Baddi Solan (HP) India on 14th December 2022.
- A national webinar on “**Perspectives, Challenges, and Opportunities for Students in the Field of Nuclear Reactor Physics in the Indian Context**” organized by the Department of Physics, Akal University, Talwandi Sabo, Bathinda India, 3rd March 2022.
- One-day e-seminar on “**Functional Properties of Ferrites**” organized by the Department of Physics, Career Point University, Hamirpur (HP) India, 22nd December 2021.

- One-week e-Workshop on “**Materials and their Characterization**” Organized by the Department of Physics, School of Basic & Applied Sciences, Maharaja Agrasen University, Baddi Solan (HP) India, 14-19 June 2021.
- One-day online workshop on “**Importance of Intellectual Property Rights in Academia**” in association with Himachal Pradesh Patent Information Centre (HPPIC) State Council for Science, Technology, and Environment, Shimla, HP, India, 27 March 2021.
- A webinar entitled “**Managing Emotional Issues of Students during a Crisis**”, Indian School Psychology Association (InSPA) in association with Pearson Academy India, 8th May 2020.
- 21st INDO-US Flow Cytometry Workshop on “**Basics of Flow Cytometry and its Applications in Plant Biology**” Eternal University, Baru Sahib (H.P.), India, 6-7 February 2020.
- One Day Seminar on “**Importance of Intellectual Property Rights**”, IPR Cell Eternal University, Baru Sahib Sirmour (H.P.) in association with Ph.D. Chamber of Commerce & Industries Himachal Pradesh, Shimla, (H.P.), India, 30 November 2019.
- Three-day workshop on “**Faculty Development Programme for Student Induction (FDP-SI) organized by AICTE**”, Eternal University, Baru Sahib (H.P.), India, 21-23 November 2019.
- 2nd One Day Workshop on “**Intellectual Property Rights: Issues and Challenges (IPRIC-2019)**”, Eternal University, Baru Sahib, Sirmour (H.P.) in association with Himachal Pradesh Patent Information Centre (HPPIC) State Council for Science, Technology, and Environment, Shimla, HP India 28th March 2019.
- Short-Term Course on “**Renewable Energy Materials and Technology in Academia and Industry (REMTAI-2016)**” - Department of Applied Physics, Indian School of Mines (IIT) Dhanbad (Jharkhand) India, 2 to 4 March 2016.
- **National conference SMART MATERIALS-2015**– Faculty of Basic Sciences Shoolini University Solan (H.P.) India, 26 to 27 November. 2015.
- Three-day 2nd National conference on “**Multifunctional Advanced Materials (MAM-2014)**”- School of Physics at Shoolini University Solan (H.P.) India 11th to 13th June. 2014.

- Three-day 1st National conference on “**Multifunctional Advanced Materials (MAM-2013)**” - School of Physics at Shoolini University Solan (H.P.) India. 2nd to 4th May. 2013.

PERSONAL INFORMATION

Father Name: Late Sh. Biri Singh
Mother Name: Smt. Jai Devi
Birth Date: 26.11.1988
Hometown: Bilaspur (HP)
Nationality: Indian
Marital Status: Married
Language Known: English, and Hindi