NAME OF FACULTY

Dr. Kulwinder Kaur
Assistant Professor,
Department of Physics,
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AERAS OF INTEREST

- **Density Functional Theory**
- **Electronic structure and thermoelectric properties of different bulk and 2D materials**

EDUCATIONAL QUALIFICATIONS

Degree	College/ University	Year of Passing	Division (%)
B.Sc (NM)	KMV College Jalandhar	2009	First Division
M.Sc (Physics)	Panjab University Chandigarh	2011	First Division
M.Phil (Physics)	Panjab University Chandigarh	2012	First Division
Ph.D	Panjab University Chandigarh	2017	Awarded

PROFESSIONAL EXPERIENCE

Designation	Name of Organization	Period		Topic of Research
		From	To	
Assistant Professor	MCM DAV College for Women, Chandigarh	21st June 2024	Till date	
Assistant Professor	MCM DAV College for Women, Chandigarh	29th August, 2022	30th April, 2024	
Assistant Professor	PEC Chandigarh	22th July, 2019	21st July, 2022	
National post-doctoral fellowship	Indian Institute of Technology Madras (Chennai)	13th September 2017	20th July 2019	Two-Dimensional Materials for Thermoelectric Applications: a First Principle Investigation”

		RESEARCH PUBLICATIONS		
1	P Hashir, T Parvathy, Aadil Fayaz Wani, **Kulwinder Kaur**	Advancement in the thermoelectric performance of bulk SnSe: GGA+U approach for band gap calculation and strain induced thermal conductivity, 182 (2025), 113181	Materials Research Bulletin	2025
2	Baljinder Kaur, Raveena Gupta, Shobhna Dhiman, **Kulwinder Kaur**, Chandan Bera	Optimising the thermoelectric properties of SnTe by band engineering, 98 (2024) 149	Pramana	2024
3	Bindu Rani, Shakeel Ahmad Khandy, Marutheeswaran Srinivasan, Atif Mossad Ali, Shobhna Dhiman, **Kulwinder Kaur**	Effect of Pressure on Thermoelectric Performance of Half Heusler Compounds, 170 (2024) 113243	Inorganic Chemistry Communications	2024
4	Shakeel Ahmad Khandy, **Kulwinder Kaur**, Srinivasan Marutheeswaran, Ishtihadah Islam	Understanding the ultralow thermal conductivity and strong anharmonicity of a lanthanum-based germanium halide monolayer for possible thermoelectric applications, 7 (2024) 9279-9288	ACS Applied Energy Materials	2024
5	Baljinder Kaur, Shakeel Ahmad Khandy , Shobhna Dhiman, Munirah D Albaqami and **Kulwinder Kaur**	Thermoelectric properties of Sn2SSe via band engineering with Ge Alloying, 99 (2024) 095990	Physica Scripta	2024
6	Utkirjon Sharopov, Kamoliddin Samiev, Akbarjon To'raev , Muzaffar Kurbanov, Mukhtorjon Karimov, Dilmurod Saidov, Feruza Akbarova, Sitora Turopova, Zafar Iskandarov, Sokhib Islamov , Aleksei Komolov, Igor Pronin, Hanna Bandarenka, Odiljon bdurakhmonov, Sherzod Abdurakhmonov , Marutheeswaran Srinivasan, **Kulwinder Kaur**	Exploring electron energy dependencies in the formation of surface charge on ZnO crystals, 227 (2024) 113395	Vacuum	2024
7	Marutheeswaran Srinivasan, Ramesh Sivasamy, **Kulwinder Kaur,** K. N. Hima Sindhu, Shakeel Ahmad Khandy, and Lokanath Patra	Structural Preferences of Metal Chalcogenide based Nanothreads (MX; M=Au, Ag; X=S, Se): A Computational Study, *9*, e202401201	Chemistry Select	2024
8	Baljinder Kaur, Heena, Shakeel Ahmad Khandy, Syed Rashid Ahmad, Munirah D Albaqami, Marutheeswaran Srinivasan, Lokanath Patra, Shobhna Dhiman, and **Kulwinder Kaur**	Thermoelectric Properties of 2D Sn_2SSe Monolayer, 7, 2300357	*Advanced Quantum Technologies*	2024
9	Shakeel Ahmad Khandy, Ishtihadah Islam, Aadil Fayaz Wani, Atif Mossad Ali, M.A. Sayed, Marutheeswaran Srinavasan, **Kulwinder Kaur**	Strain dependent electronic structure, phonon and thermoelectric properties of CuLiX (X=S,Te) half Heusler compounds, 677, 415698	Physica B: Condensed Matter	2024

10	Savita Grewal, Suresh Kumar, **Kulwinder Kaur**, Ranjan Kumar	Influence of Strain on Thermoelectric Properties of NaYX (X=C,Ge) Half-Heusler Compounds, 7, 445–458	Journal of Superconductivity and Novel Magnetism	2024
11	Anusha Dubey, Naincy Pandit, Rashmi Singh, Tarun Kumar Joshi, Banwari Lal Choudhary, Peeyush Kumar Kamlesh, Samah Al-Qaisi, Tanuj Kumar, **Kulwinder Kaur**, Ajay Singh Verma	Lead-free alternative cation (Ethylammonium) in organometallic perovskites for thermoelectric applications, 30, 77	Journal of Molecular Modelling	2024
12	Upasana Rani, Peeyush Kumar Kamlesh, Rashmi Singh, Tanuj Kumar, Rajeev Gupta, Samah Al-Qaisi, **Kulwinder Kaur**, and Ajay Singh Verma	Exploring properties of organometallic double perovskite (CH3NH3)2AgInCl6: A novel material for energy conversion devices, (2024) 2450144	Modern Physics Letters B	2024
13	Nishi Mehak, Bindu Rani, Aadil Fayaz Wani, Shakeel Ahmad Khandy, Ajay Singh Verma, Atif Mossad Ali, M.A. Sayed, Shobhna Dhiman, **Kulwinder Kaur**	First principle examination of two dimensional rare-earth metal germanide halides Y2GeX2 (X = Cl, Br, I) for thermoelectric applications, 171, 107995	Materials Science in Semiconductor Processing	2024
14	Aadil Fayaz Wani, Shakeel Ahmad Khandy, Lokanath Patra, Marutheeswaran Srinivasan, Jaspal Singh, Atif Mossad Ali, Ishtihadah Islam, Shobhna Dhiman and **Kulwinder Kaur**	Intrinsic and strain dependent ultralow thermal conductivity in novel AuX (X = Cu, Ag) monolayers for outstanding thermoelectric applications, 25, 21736	Phys. Chem. Chem. Phys	2023
15	Bindu Rani, Shakeel Ahmad Khandy, Jaspal Singh, Ajay Singh Verma, Atif Mossad Ali Shobhna Dhiman, **Kulwinder Kaur**	Electronic structure, elastic and transport properties of new Palladium-based Half-Heusler materials for thermoelectric applications, 36, 106461	Materials Today Communications	2023
16	Aadil Fayaz Wani, Lokanath Patra, Marutheeswaran Srinivasan, Jaspal Singh, Shaimaa A. M. Abdelmohsen, Meznah M. Alanazi, Shobhna Dhiman, and **Kulwinder Kaur**	XO2 (X = Pd, Pt) Monolayers: A Promising Thermoelectric Materials, 6, 2300158	Advanced Theory and Simulation	2023
17	Baljinder Kaur, Raveena Gupta, Shobhna Dhiman, **Kulwinder Kaur**, Chandan Bera	Anisotropic thermoelectric figure of merit in $MoTe_2$ monolayer, 661, 414898	Physica B: Condensed Matter	2023
18	Saadi Berri, **Kulwinder Kaur,** Dinesh C.Gupta, Shakeel Ahmad Sofi, Jaspal Singh, Marutheeswaran Srinivasana, Aadil Fayaz Wani, Ikram Un Nabi Lone	Tailoring the Inherent Magnetism and Thermoelectric Response of Pyrochlore Oxide $A_2B_2O_7$ (A = Er, B = Ru, Sn, Ge, Pt): A Computational Approach, **36**, 1203–1215	Journal of Superconductivity and Novel Magnetism	2023

19	Jaspal Singh, **Kulwinder Kaur**, Ishtihadah Islam, Jan Mohammad Mir , Megha Goyal, Tavneet Kaur, S.S. Verma, Atif Mossad Ali, Shakeel Ahmad Khandy	Electronic structure, phonon stability, mechanical and high-temperature thermoelectric properties of Li-based quaternary Heusler alloys, 50, 161–167	Current Applied Physics	2023
20	Pallavi Verma, Chandravir Singh, Peeyush Kumar Kamlesh, **Kulwinder Kaur,** Ajay Singh Verma	Nowotny-Juza phase KBeX (X = N, P, As, Sb, and Bi) half-Heusler compounds: applicability in photovoltaics and thermoelectric generators, 29:23	Journal of Molecular Modeling	2023
21	Shakeel Ahmad Khandy, Ishtihadah Islam, **Kulwinder Kaur**, Atif Mossad Ali, Alaa F.Abd El-Rehim	Electronic structure, stability, photocatalytic and optical properties of new lead-free double perovskites Tl2PtX6 (X = Cl, Br) for light-harvesting applications, 29, 127293	Materials Chemistry and Physics	2023
22	Aadil Fayaz Wani, Bindu Rani, Shobhna Dhiman and **Kulwinder Kaur**	Band engineering of monolayer CaI2, a first-principles Approach, 1-9	ADVANCES IN MATERIALS AND PROCESSING TECHNOLOGIES	2023
23	Bindu Rani, Aadil FayazWani, Utkir Bahodirovich Sharopov, LokanathPatra, Jaspal Singh, Atif Mossad Ali, A. F. Abd El-Rehim, Shakeel Ahmad Khandy, Shobhna Dhiman and **Kulwinder Kaur**	Electronic Structure-, Phonon Spectrum-, and Effective Mass-Related Thermoelectric Properties of PdXSn (X = Zr, Hf) Half Heuslers, 27, 6567.	Molecules	2022
24	Tavneet Kaur, Jaspal Singh, Megha Goyal, **Kulwinder Kaur,** Shakeel Ahmad Khandy, Muzzammil Ahmad Bhat, Utkir Bahodirovich Sharopov, Shobhna Dhiman, Aadil Fayaz Wani, Bindu Rani, M M Sinha and S S Verma	First principles calculations to investigate Li-based quaternary Heusler compounds LiHfCoX (X = Ge, Sn) for thermoelectric applications, 97 105706	Phys. Scr	2022
25	Jaspal Singh, **Kulwinder Kaur**, Muzzammil Ahmad Bhat, Utkir Bahodirovich Sharopov, Shobhna Dhiman, Megha Goyal, S.S. Verma, Shakeel Ahmad Khandy	First-principles calculations on the electronic structure and thermoelectric properties of quaternary Heusler compounds: LiScPtSi and LiScPdGe, 97, 105706	Materials Today Communications	2022
26	Shakeel Ahmad Khandy, Ishtihadah Islam, **Kulwinder Kaur,** Atif Mossad Ali, and Alaa F. Abd El-Rehim,	Effect of Strain on the Electronic Structure and Phonon Stability of SrBaSn Half Heusler Alloy, 32, 103961	Molecules	2022
27	Bindu Rani, Aadil Fayaz Wani, Shakeel Ahmad Khandy , U. B. Sharopov, Loknath Patra, **Kulwinder Kaur**, Shobhna Dhiman,	Pursuit of stability, electronic and thermoelectric properties of novel PdVGa half heusler compound, 351, 114796	Solid State Communications	2022
28	Aadil Fayaz Wani, Bindu Rani,Shobhna Dhiman,Utkir	SiH monolayer: A promising two-dimensional thermoelectric material, 46 (8) , 10885-10893	International journal of	2022

	Bahodirovich sharopov, **Kulwinder Kaur,**		Energy Research,	
29	Aadil Fayaz Wani, Bindu Rani, U. B. Sharopov, Shobhna Dhiman, **Kulwinder Kaur,**	Thermoelectric investigation of transition metal oxide NiO2: A first principles study", 46, 8527-8535	International journal of Energy Research,	2022
30	**Kulwinder Kaur,** Shakeel Ahmad Khandy, Shobhna Dhiman, Utkir Bahodirovich Sharopov, Jaspal Singh	Computational prediction of thermoelectric properties of 2D materials, 4, 023001	Electron. Struct.	2022
31	Mohd Tauheed llyas, **Kulwinder Kaur,** Jadab Sharma, GSS. Saini,	DFT study of electronic structure and mobility of pristine and fluorinated methylammonium lead halide perovskites ($CH_3NH_3PbX_3$, X= I, Br, Cl), 46:6889–6900	Int J Energy Res.	2022
32	Jaspal Singh, **Kulwinder Kaur,** Shakeel Ahmad Khandy, Shobhna Dhiman, Megha Goyal, S S Verma,	Structural, electronic, mechanical, and thermoelectric properties of LiTiCoX (X = Si, Ge) compounds,45, 16891	Int J Energy Res.	2021
33	Manpreet Kaur, **Kulwinder Kaur,** Harminder Kaur,	Quest of Schiff bases as corrosion inhibitors: A first principle approach, 34;e4260	J Phys Org Chem.	2021
34	Shakeel Ahmad Khandy, **Kulwinder Kaur,** Shobhna Dhiman, Jaspal Singh, Vipin Kumar,	Exploring thermoelectric properties and stability of half-Heusler PtXSn (X = Zr, Hf) semiconductors: A first principle investigation, 188, 110232	Computational Materials Science	2021
35	Shakeel Ahmad Khandy, Ishtihadah Islam, **Kulwinder Kaur,** Amel Laref, Shobhna Dhiman, Seemin Rubab, Dinesh C. Gupta, Rabah Khenata.	DFT investigations on the electronic structure, magnetism, thermodynamic and elastic properties of newly predicted cobalt based antiperovskites: Co_3XN (X = Pd, Pt & Rh). 17 (2020) 103112.	Results in Physics	2020
36	Subhajit Nandy, **Kulwinder Kaur,** Sanjeev Gautam, Keun Hwa Chae, BRK Nanda, Chandran Sudakar,	Maximizing Short Circuit Current Density and Open Circuit Voltage in Oxygen Vacancy-Controlled $Bi_{1-x}Ca_xFe_{1-y}Ti_yO_{3-\delta}$ Thin-Film Solar Cells, 12, 14105–14118	ACS Appl. Mater. Interfaces	2020
37	SA Khandy, I Islam, **Kulwinder Kaur**, A Nazir, A Laref,	Electronic structure, magnetism and elastic properties of inverse perovskite carbide: A first principles study, 578, 411839	*Physica B: Physics of Condensed Matter*	2020
38	Subhajit Nandy, Pavana S. V. Mocherla, **Kulwinder Kaur,** Sanjeev Gautam, B. R. K. Nanda, and C.Sudakar	" Band engineering *via* grain boundary defect states for large scale tuning of photoconductivity in $Bi_{1-x}Ca_xFe_{1-y}Ti_yO_{3-\delta}$, 126, 235101	Journal of Applied Physics,	2019
39	**Kulwinder Kaur,** Devaraj Murali, B. R. K. Nanda	"Stretchable and Dynamically Stable Promising Two-Dimensional Thermoelectric Materials: ScP and ScAs" 7,12604	J. Mater. Chem. A,	2019
40	Subhajit Nandy, **Kulwinder Kaur,** Pavana S. V. Mocherla, B. R. K. Nanda, and C. Sudakar,	"Oxygen vacancy induced photoconductivity enhancement in Bi1-xCaxFeO3-δ nanoparticle ceramics: A combined experimental and theoretical study" 124, 195108	Journal of Applied Physics	2018
41	**Kulwinder Kaur,** Ranjan Kumar, D.P.Rai,	A promising thermoelectric response of HfRhSb half Heusler compound at high temperature: A	Journal of Alloys and Compounds	2018

		first principle study" 763, 1018-1023		
42	Anuradha, **Kulwinder Kaur,** Ranbir Singh, Ranjan Kumar	Search for thermoelectricity in Li-based half-Heusler alloys: a DFT study" 5, 014009.	Mater. Res. Express	2018
43	**Kulwinder Kaur**, Ranjan Kumar	"Giant thermoelectric performance of Novel TaIrSn Half Heusler compound" 381 (44), 3760	Physics Letters A	2017
44	**Kulwinder Kaur,** Ranjan Kumar	"Ti based half Heusler compounds: A new on the screen with robustic thermoelectric performance" 727, 1171-1177	Journal of Alloys and Compounds	2017
45	**Kulwinder Kaur,** Ranjan Kumar	"High Temperature Thermoelectric Performance of p-type TaRhSn Half Heusler Compound: a Computational Assessment" 43,15160–15166	Ceramic International	2017
46	**Kulwinder Kaur**, D.P. Rai, R. K. Thapa, Sunita Srivastava	"Structural, electronic, mechanical, and thermoelectric properties of a novel half Heusler compound HfPtPb" 122, 045110	J. of Applied Physics	2017
47	**Kulwinder Kaur,** Shobhna Dhiman, Ranjan Kumar	"Enhanced thermoelectric performance of Mg_2Si by Strain engineering: a first principle calculations, 4, 075509.	*Material Research Express*	2017
48	**Kulwinder Kaur**, Shobhna Dhiman, Ranjan Kumar"	Scrutinize the effect of Ge and Sn on electronic and thermoelectric properties of Mg_2Si as thermoelectric material" 91(11):1305–1317.	Indian J Phys	2017
49	**Kulwinder Kaur,** Ranjan Kumar	"On the possibility of thermoelectricity in half heusler XRuSb (X=V, Nb, Ta) materials: a first principle prospective" 110, 108–115.	Journal of Physics and Chemistry of Solids	2017
50	Sukhwinder Singh, **Kulwinder Kaur,** Ranjan Kumar	"Quest of thermoelectricity in topological insulators: a density functional theory study" 418, 232-237	Applied Surface Science	2017
51	**Kulwinder Kaur,** Jaswinder Kaur	Exploration of thermoelectricity in ScRhTe and ZrPtPb Half Heusler compounds: a First principles study" 715, 297-303	Journal of Alloys and Compounds	2017
52	**Kulwinder Kaur,** Ranjan Kumar	"Unraveling the effect of uniaxial strain on thermoelectric properties of Mg_2Si: a DFT study" 26 (6) 066401.	Chinese Physics B	2017
53	**Kulwinder Kaur,** Ranjan Kumar	"Sb substitution effect on thermoelectric properties of Mg_2Si" 46 (7) 4682	Journal of Electronic materials	2017
54	**Kulwinder Kaur**	"TiPdSn: a Half Heusler compound with high thermoelectric performance" 117, 47002	Europhysics Letter	2017
55	**Kulwinder Kaur**, Shobhna Dhiman, Ranjan Kumar	"Emergence of thermoelectricity in topological semimetals (HH) with strain" 381, 339–343	Physics Letters A	2017

56	**Kulwinder Kaur**, Ranjan Kumar	"Enhancement of ZT by doping Bi in Mg_2Si for energy harvesting applications" 26, 533–539	Progress in Natural Science: Materials International	2016
57	**Kulwinder Kaur,** Ranjan Kumar"	"First principle investigation of the electronic and thermoelectric properties of Mg_2C, 25(2) 026402	Chin. Phys. B	2016
58	**Kulwinder Kaur**, Ranjan Kumar	"Effect of pressure on electronic and thermoelectric properties of magnesium silicide: A density functional theory study" 25(5) 056401	Chin. Phys. B	2016

PROFESSIONAL RECOGNITION/AWARD

- **N**ational **E**ligibility **T**est (NET) – CSIR **JRF** June **2012**
- **G**raduate **A**ptitude **T**est **E**ngineering **(GATE) 2012**
- Finalist in Rising Star -2020 (**Top 20 in the World) by Journal of Computational Material Science (Elsevier)**
- **Top 2%** most cited Scientist in the world (2022, 2024) by **Stanford university USA**.

S. No.	Name of Award	Awarding Agency	Year
1.	**Best Poster Award**	Anna University	2017
2.	**Travel Grant**	RAKCAM Dubai	2018
3.	**Travel Grant**	ICTP Italy	2018
4.	**National Postdoctoral Fellowship**	SERB	2017

PAPER PRESENTATION IN CONFERENCE

Sr. No	Publication detail
1	Baljinder Kaur, Bindu Rani, Aadil Fayaz Wani, Nishi Mehak, **Kulwinder Kaur**, Shobhna Dhiman, Thermal and electrical properties of rare earth based chalcogenide compounds R2X3 (R= Dy or Tb and X= S or Se), **AIP Conf. Proc.** 3149, 030017 (2024)
2	Bindu Rani, Aadil Fayaz Wani, Baljinder Kaur, Kulwinder Kaur, Shobhna Dhiman, Study of strain on structural stability and electronic properties of PdTiSn half Heusler compound, *AIP Conf. Proc.* 3149, 030029 (2024)
3	Hashir P, P.P Pradyumnan, Aadil Fayaz Wani, **Kulwinder Kaur**, Experimental and First-Principles Thermoelectric studies of Bulk ZnO, **IOP Conf. Series: Materials Science and Engineering 1263 (2022)** 012025

4	Jaspal Singh, **Kulwinder Kaur**, Megha Goyal, Shakeel Ahmad Khandy, Shobhna Dhiman, and S. S. Verma, Structural, electronic, vibrational, thermoelectric and mechanical properties of Li based quaternary Heusler compound LiTiCoSn: A DFT approach" accepted in **Material Today: Proceedings, 57 (2022)** 211-216.
5	Jaspal Singh, **Kulwinder Kaur**, Megha Goyal, Shakeel Ahmad Khandy, Shobhna Dhiman, and S. S. Verma, Quaternary Heusler Compound LiYNiSn: A Search of New Thermoelectric Material by DFT Study, **AIP Conf. Proc.** 2352, 020028 (2021)
6	Nisha, **Kulwinder Kaur,** Jyoti Thakur, Manish K. Kashyap, and Hardev S. Saini, Electronic and thermoelectric transport properties of topological insulator LiAuS, **AIP Conference Proceedings** 2115, 030426 (2019).
7	Sukhwinder Singh, **Kulwinder Kaur**, and Ranjan Kumar, Thermoelectric properties of ZrNiSn Half-Heusler system: An ab-initio study, **AIP Conference Proceedings** 1832, 110004 (2017).
8	**Kulwinder Kaur**, Ranjan Kumar, "Electronic and Thermoelectric Properties of Al doped Mg2Si Material: DFT Study" Materials Today: Proceedings 3, 1785–1791 (2016)
9	**Kulwinder Kaur**, Anita Rani, Ranjan Kumar "Thermoelectric properties of Al doped Mg2Si material" **AIP Conference Proceedings** 1675, 030023 (2015).
10	**Kulwinder Kaur,** Ranjan Kumar "Ab-initio Study of Thermoelectric Properties of Mg2Ge" **AIP Conference Proceedings** 1731, 120017 (2016).
11	Anita Rani, **Kulwinder Kaur,** and Ranjan Kumar "Cd0.9375Mn0.0625S diluted magnetic semiconductor: A DFT study" **AIP Conference Proceedings** 1675, 030033 (2015).
12	Anita Rani, **Kulwinder Kaur**, Shobhna Dhiman, Ranjan Kumar "Effect of Hydrostatic Pressure on the Structural and Electronic Properties of Cd0.75Cr0.25S" **AIP Conference Proceedings** 1731, 120023 (2016).

SCHOOLS/ REFRESHER/ FACULTY DEVELOPMENT PROGRAMME ATTENDED

Year	Date	Course details	Venue/ Institution
Summer School/ Special Summer School			
2014	29th June to 12th July	International Summer school on material modeling using DFT	IISER Pune
2014	24th to 13th December	Density functional theory and beyond: Computational materials science and materials design	M.S University vadodara (Gujarat).
Faculty Development Programme (FDP)			
2022	28th June to 2 July	Modern Strategies in Physics Research: Ensuring Sustainable Development (MSPR-ESD)	SGT University Gurugram
2022	21st to 26th march	FRONTIERS IN MATERIALS RESEARCH: FROM MATERIALS SIMULATION TO EMERGING APPLICATIONS	IIITDM Kancheepuram
2021	4th to 8th January	Novel Materials	M.N institute of Technology Jaipur.

2021	2nd to 6th November	Novel Materials	Shri Shankaracharya Technical Campus-Shri Shankaracharya Group of Institutions.
2021	9th to 13th November	Novel Materials	SRM Institute of Science and Technology.
2021	11th to 16th January	Novel Multifunctional Materials	PEC Chandigarh.
2021	22nd to 26th January	Novel Materials	College of Engineering & Management, Kolaghat.
2020	14th to 19th december	Modelling simulations and fabrication of Semiconductor, MEMS and NEMS Devices	KL (Deemed to be University) Vaddeswaram, Guntur,
2020	12th to 16th october	Advanced Energy Materials"	NIT Jalandhar
2020	25th to 29th september	Current Trends in condensed matter physics"	NIT Jalandhar
2020	3rd to 8th August	Exploring Science and Technology Interconnections	Panjab University Chandigarh.
Training Workshop/ Workshop (India & Abroad)			
2015	21th March,	Simulation Tools for Nanostructure and Device Modeling (STNDM-2015)	NIT, Kurukshetra
2018	11th -15th September	Evolution of electronic structure theory and experimental realization (EESTER -2018)	SRM and IIT madras
2021	23rd to 25th February	Computational Physics and Materials Science: Total Energy and Force Methods	ICTP Italy.
2015.	16th to 17th March	High Performance Computing	Panjab University Chandigarh.
Conferences			
2012	26th to 28th February	CHANDIGARH SCIENCE CONGRESS (CHASCON-2012)	Panjab University Chandigarh.
2013	30th Oct-1st Nov	Interdisciplinary Areas with Chemical Sciences.	Panjab University Chandigarh.
2014.	13 Feb to 15 Feb	NanoSciTech 2014	Panjab University Chandigarh.
2014	April 26,	Recent Advances in Chemical, Enviromental and Material Sciences (CEMS-2014)	Panjab University Chandigarh.
2014	19th -20th , September	Harnessing Engineering, Technology, and Innovation for Sustainable Growth	Panjab University Chandigarh.
2014	4th -6th November	ICCMP-2014, condensed matter physics	organized by HPU Shimla.
2014	27-30th December	CHEMCON-2014	Panjab University Chandigarh.

2015	28th Feb. to 2nd March,	ANNUM-3	Panjab University Chandigarh.
2015	13th -14th March,	Advanced Materials and Radiation Physics (AMRP-2015) .	SLIET Longowal,
2015	8th - 10th July	Recent Advances in Nano Science and Technology (RAINSAT-2015)" .	Sathyabama University Chennai, India,
2015	21th -25th December	DAE Symposium Solid state Physics.	Amity University Noida (UP)
2016	5th -8th June	Materials Science and Technology (ICMST-2016)" .	St. Thomas College Palai (Pala), Kerala, India
2016	22-24 September	ACCMS-2016	SRM university Chennai, India
2017	6th -8th January	advances in functional materials (ICAFM -2017) .	Anna University Chennai
2017	*09-11 August*	*ICONN-2017*	*SRM university Chennai, India*
2019	23rd -26th February	Advanced Materials (IWAM-2019)	Ras Al Khaimah, United Arab Emirates
Webinar			
2020	17th to 19th August	Synthesis and characterization of Nano -materials and their novel applications	R.K. Valley, Rajiv Gandhi University of Knowledge Technologies.
2020	15th to 18th September	Modern Approach on Magnetism and Material Science in Engineering	Maharaja Institute of Technology Mysore .

BOOK CHAPTERS

Sr. No	Authors Name	Chapter Name	Year	Publisher Name
1	**Kulwinder Kaur**, Enamullah, Shakeel Ahmad Khanday, Jaspal Singh, and Shobhna Dhiman	Traditional thermoelectric materials and challenges	2021	Wood Head (Elsevier)
2	Mustafa Shalaby, Salwa Hamdy, Ishtihadah Islam, **Kulwinder Kaur,** Aamer Nazir, and Shakeel Ahmad Khandy	Bulk and Nanocomposite Thermoelectrics: Synthesis, Properties, and Applications,	2022	Springer
3	Nishi Mehak, Aadil Fayaz Wani, Bindu Rani, Utkir Bahodirovich Sharopov, Jaspal Singh, Shakeel Ahmad Khandy, Lokanath Patra, Shobhna Dhiman and **Kulwinder Kaur**	Thermoelectric Properties of Perovskites Materials	2023	Nova
4	Aadil fyaz Wani , Nishi Mehak , Bindu Rani , Baljinder Kaur , Rekha Rani, Anita Rani , Shakeel ahmad Khandy , **Kulwinder Kaur**	Pressure induced analysis on the structural, optoelectronic, magnetic, and thermoelectric properties of spinel ferrites: a DFT study	2025	Wood Head (Elsevier)

MEMBERSHIPS

		Time Period
1	Indian Association of physics Teachers (IAPT)	Life time
2	Chandigarh Vigyan Parishad	Life Time
3	American Chemical Society (ACS)	Life Time

INVITED TALKS

Year	Date	Name of the conference	Details (Venue/ Institution/Course, etc.)
2023	20-25 August	International Congress on Industrial and Applied Mathematics	Waseda University, Tokyo, Japan
2023	8th -12th May	FDP on Computational Modelling of Materials	Madanapalle Institute of Technology & Science, Madanapalle-517325, Andhra Pradesh, India
2023	9th -13th May	International workshop on Multiscale Modeling of Materials in Carbon Related Nanostructures	Central University, Haryana
2023	15th -19th March	International Workshop on Quantum Mechanical Modelling using Quantum Espresso (IWQMMM-2023)	PSIT Kanpur
2021	22th -24th Nov	International Conference on Material Sciences and Applied Physics (ICMSAP–2021)	Department of Physics, Pachhunga University College Mizoram University, Aizawl, India
2021	10th March	Resource person	Mata Sundri University girls College, Mansa (India).
2020	28th September -2rd October	Advanced Functional Materials (AFMAT 2020	Sant Longowal Institute of Engineering and Technology (India).

CONFERENCES ORGANISED

Year	Date	Topic / Theme of the conference		Details (Venue/ Institution/Course, etc.)
2019	19th Nov	Recent Development in Condensed Matter Physics (RDCMP-2019)	Coordinator	PEC Chandigarh
2022	18th -19th Nov	Beyond the contemporary Science (BCS-2022)	Co-Convenor	MCM DAV College for Women, Chandigarh