

CURRICULUM VITAE

NAME: Dr. Ramesh Chandra
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Institute Instrumentation Centre &
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Website: <https://iitr.ac.in/Centres/Institute%20Instrumentation%20Centre/People/Faculty/ProfilePage.html>, Profile URL: <https://iitr.irins.org/profile/60638>

PAY SCALE: Level-15 (₹ 1,82,200 – 2,24,100), **BASIC PAY:** ₹ 2,24,100/

DATE OF BIRTH: April 24, 1964

EDUCATIONAL QUALIFICATIONS:

Ph. D (Physics): I. I. T. Delhi in 1993

M. Sc (Physics): A.M.U. Aligarh in 1987

TEACHING & RESEARCH EXPERIENCE:

32 Years

1. Professor, **Senior Scale**, at IITR Since January 2021
2. Professor at I.I.T. Roorkee since April (2014 – 2020)
3. Associate Professor at I.I.T. Roorkee (2007-2014)
4. Assistant Professor at I.I.T. Roorkee (2004-07)
5. Reader at C.C.S. University, Meerut (2002-04)
6. Lecturer at Guru Nanak Dev University, Amritsar (1994 – 02)
7. Research Associate at N.P.L., New Delhi (1993-94)

ORCID ID: <https://orcid.org/0000-0002-4529-2217>

<https://iitr.irins.org/faculty/index/Institute+Instrumentation+Centre>

Profile URL: <https://iitr.irins.org/profile/60638>

Google Scholar Citations:

<https://scholar.google.co.in/citations?hl=en&user=VOwGOJQAAAAJ>

<https://youtube.com/clip/UgkxD3rIFhB-w7Me2FzdcBZ9szVb82dH8Bxn>

ADMINISTRATIVE EXPERIENCE:

1. **Head**, IIC for 10 Years (2012 - 2016) & January 2020 – 2025 (June)
2. **Head**, DST SAIF (EPMA) Facility (Since 2014-2022)
3. **Staff advisor for hobbies club** for 3 years (2009-12)
4. **Staff Advisor of the Sports Council** of IIT Roorkee for 6 Years (2010-16)
5. **Chairman Safety Committee of the Centre** (2018----Contd)
6. **Chairman Institute Disposal Committee** (2025--- Contd)

AWARDS AND RECOGNITIONS:

1. **Dr. A.N. Chatterjee** memorial award on fabricating **High-Tc Squids** in 1990 at National Physical Laboratory New Delhi.
2. Received **Visiting Scientist** position at Tata Institute of Fundamental Research (TIFR), Mumbai during 1997 to 1999.
3. Received **Visiting Associate** position at Inter University Accelerator Centre (**IUAC**), **New Delhi**, for 3 years (2002-04)
4. Received **Commonwealth fellowship** to work at **University of Cambridge, United Kingdom (UK)** during (2002 – 03).
5. **INSA Fellowship** to visit the **University of Cambridge, UK** (2009 – 10).
6. **INSA Fellowship** Silesian Univ of Technology, Gliwice, **Poland** (June 07-28, 2019).
7. **Outstanding Contribution** to *develop corrosion resistant coatings* for Defense Applications.
8. Senate Member of IIT Bhilai (2024-26)

Prof Ramesh Chandra, Institute Instrumentation Centre, Indian Institute of Technology Roorkee (IIT Roorkee) was felicitated at the recent **DRDO-Academia Conclave organized by Defence Research and Development Organizations (DRDO) on May 25 – 26, 2023 at DRDO Bhawan New Delhi**. During the event, **Hon'ble Raksha Mantri Shri Rajnath Singh** felicitated Prof. Ramesh Chandra for his outstanding contributions towards developing technology for DRDO. Prof. Ramesh Chandra and his group designed and developed hydrophobic, optically transparent, hard and corrosion resistant coatings to improve the service life of structural components used in the Naval submarines which will greatly help the Indian Naval Forces.



SPONSORED PROJECTS: (COMPLETED) As PI

S.N	Duratio	Agency	Title of the Project	Grant (Lacs)
1.	2005-07	DST	Study of Optical & Mech prop. of Nanomaterials	Rs. 24.00
2.	2006-09	CSIR	Optical Characterization of Nanomaterials for Device Application	Rs. 14.00
3.	2006-08	DRDO	Deposition of Scratch Resistant Nano structured Optical Coating by Sputtering	Rs. 10.00
4.	2006-09	DST	Super hard Nanocomposit coatings ...	Rs. 95.00
5.	2008-09	DAE	Corrosion Resistant... Structural Materials	Rs. 17.00
6.	2008-10	DRDO	Fe-SiC Nanostructured films by PVD...	Rs. 10.00
7*	2008-12	DIT	MEMS & Q.dot modified PV Cell..	Rs. 484.00
8.	2009-11	DRDO	Optically transparent hard coatings	Rs. 28.75
9.	2009-12	CSIR	Nanostructured hydrophobic Coatings...	Rs. 16.10
10.	2010-13	CPRI	Development of Silt Erosion Resistant...	Rs. 163.13
11.	2012-14	DRDO	Synthesis and Characterization of Metal oxide Nanoparticles.....	Rs. 12.46
12.	2014-16	DRDO	Development of SiC thin films for electronic applications	Rs. 20.70
13.	2014-17	DRDO	Absorption studies of laser light in nanoparticles for laser initiation of high explosives	Rs. 38.02
14.	2016-17	DRDO	Saline water protective antireflective coatings on Si	Rs. 9.715
15.	2017-20	CSIR	Studies on Magnetic Couplinginduced by H2 Charging	Rs. 20.32
16.	2019-20	DRDO	Fabrication & Characterization of MoS2 Films by PVD	Rs. 10.80
17.	2018-21	DRDO	Development of Corrosion resistant hydrophobic coatings for under saline water applications	Rs. 79.24
18.	2019-23	DST	Fabrication of High Energy Density Thin film based on chip Supercapacitor Devices Using Sputtering Technique.	Rs. 95.40
Total Grant			Rs. 1148.61(lacs)	

(IN PROGRESS)

S.N	Date	Agency	Title of the Project	Grant (Lacs)
1.	2024-27	DRDO	Development of Optically transparent, mechanically durable, for underwater applications	Rs. 266.31
2.	2023-26	DRDO (Co-PI)	Fabrication of 2D-transition metal dichalcogenides based devices for optoelectronic applications	Rs. 142.00*
3.	2026-29	Horiba-India	Horiba-India	Rs. 47.25
Total Grant				Rs. 455.56 lacs

CONSULTANCY PROJECTS:

2009	NTPC Greater NOIDA Hydrophobic coatings on HV Insulators	Rs. 6.20 lacs
2013	ASAHI INDIA GLASS LTD Roorkee Golden Color Coatings	Rs. 2.50 lacs
2014	Technical diligence of Attero recycling Pvt. Ltd Roorkee	Rs. 2.00 lacs
2014	Technical study of high speed ffs rotary machine with single track	Rs. 2.00 lacs
2015	Characterization of catalyst samples	Rs. 0.88 lacs
2015	Pectographic analysis of silt & water of Shana HEP, PSPCL	Rs. 1.80 lacs
2015	Development of new multi-layer coating	Rs. 1.25 lacs
2016	Optical characterization of Poly film....	Rs. 4.00 lacs
2017	Synthesis of hydrophobic coatings on glass supplied by AIS Roorkee	Rs. 3.00 lacs
2018	Coatings & its defects analysis on Glass supplied by AIS Roorkee	Rs. 3.00 lacs
2019	Analysis of Glass defects supplied by AIS	Rs. 4.50 lacs
2019	Structural & elemental analysis of Alumina Ceramic Liner samples	Rs. 3.00 lacs
2020	Analysis of Glass defects supplied by AIS	Rs. 3.00 lacs
2021	Structural defects Analysis of Glass samples supplied by AIS	Rs. 3.00 lacs
2021	Characterization of multilayer coatings on Glass by AIS	Rs. 4.00 lacs
2022	Structural defects Analysis of Glass samples supplied by AIS	Rs. 6.00 lacs
2022	Characterization ...Synthesized from Recycled E-Waist, Exigo NOIDA	Rs. 3.00 lacs
2022	Characterization of multilayer coatings on Glass by AIS	Rs. 6.00 lacs
2023	Structural defects Analysis of Glass samples supplied by AIS	Rs. 6.00 lacs
2024	Structural & elemental analysis of Alumina Ceramic Liner samples.	Rs. 3.00 lacs
2025	Structural defects Analysis of Glass samples supplied by AIS	Rs. 6.00 lacs
2025	Structural & elemental analysis of Alumina Ceramic Liner samples.	Rs. 3.00 lacs
2026.	Structural defects Analysis of Glass samples supplied by AIS	Rs. 6.00 lacs

RESEARCH GUIDANCE:

Ph.D. Awarded: 38 Submitted: 2, Ongoing: 8, M. Tech/Phil: 18, Post-Doctoral Fellows: 2

Research Publications in Journals: 303, Conferences: 175, Patents Granted: 4, Submitted: 3

Regular Reviewer of the following Publishers.

Elsevier, American Institute of Physics, Springer, ACS etc
Applied Physics Letters, Applied Surface Science, International Journal of Hydrogen Energy, Thin Solid Films, Sensors & Actuators: B. Chemical, Materials and Design, Journal of Magnetism and Magnetic Materials, Surface & Coatings Technology, Journal of applied physics, Vacuum, Journal of Alloys & Compounds, Materials Science & Engineering B, Solid State Communication, Applied Optics, I Journal of Hydrogen Energy, Optics and Laser Technology, Materials Chemistry and Physics, OSA The Optical Society

Organized Short-Term course (QIP): Advances in Characterization techniques on functional Nanomaterials: 2010, 2012, 2014, 2015, 2017, 2019, 2020, 2022, 2023.

Conducted a workshop December 12-16, 2011, for NTS Awardees sponsored by NCERT.

Organized Several Training programs on Analytical facilities for Pre-Ph.D students

Attended workshop/Training Course for **Senior Executives.**

Organized several National/ International conferences at IIT Roorkee

BROAD AREAS OF RESEARCH:

1. Nanostructures for energy conversion and catalysis
2. Supercapacitors for energy storage
3. Development of Gas Sensors (H_2 , CO, Cl_2 , NH_3 etc.)
4. Study of Hydrogen effects on magnetic nanostructured coatings
5. We have developed expertise in fabricating high-quality films by sputtering of SiC for high-temperature electronics and other harsh environment applications.
6. Development of Wear & Corrosion Resistant Coatings on Structural Materials
7. Synthesis & and characterization of ordered magnetic nanostructures

Member Technical Expert Committee of outside organisations

1. Instruments Research & Development Establishment (IRDE), DRDO, Dehradun
2. Solid State Physics Lab. (SSPL), DRDO, New Delhi
3. Terminal Ballistic Research Lab. (TBRL), DRDO, Chandigarh
4. Defence Research Development Establishment (DRDE) Gwalior
5. Defence Materials and Stores Research and Development Establishment, Kanpur
6. Indian Oil Corporation Limited (IOCL), Faridabad
7. Dr. B R Ambedkar National Institute of Technology (NIT), Jalandhar
8. Indian Institute of Technology (BHU) Varanasi
9. Motilal Nehru National Institute of Technology Allahabad
10. Inter University Accelerator Centre (IUAC), New Delhi
11. Indian Institute of Petroleum (IIP) CSIR, Dehradun
12. Indian Institute of Technology Bhilai, Raipur

Established the Research Laboratory at IIT Roorkee to Fabricate Thin Film based Nanostructures for various Device applications

Since joining IIT Roorkee, I have also developed a Thin film fabrication lab which consists of 7 Nos Sputtering Systems and 3 PLD deposition Systems. These systems have been developed under the ***Make in India concept***. Also I have developed a ***Gas sensing setup*** in the Lab., to characterize different Gas Sensors (H_2 , NH_3 , Cl_2 , H_2S & CO_2 etc.). ***Electrochemical workstation*** for electrochemical energy storage and hydrogen-oxygen evolution studies and analysis. ***Contact angle measurement*** for measuring the contact angle and surface energy of thin films with the help of EASYDROP (Kruss). Ellipsometer to measure optical properties of thin films for Marin application in strategic Defense equipment. ***Impedance analyser*** to measure dielectric, capacitance and admittance as a function of frequency and voltage. These facilities have been created with the help of sponsored research grants received from various funding agencies such as the Department of Science & Technology (DST), Council of Scientific and Industrial Research (CSIR), Défense Research and Development Organization (DRDO), Department of Atomic Energy (DAE) and Central Power Research Institute (CPRI). In addition to working on the sponsored research projects, I have been working with the local industries, namely Attero Recycling Pvt Ltd, Roorkee, Asahi India Glass Ltd, Roorkee, BMW Steels Ltd., Dehradun, to help them in their respective process development. I have completed **18 Consultancy Projects** related to various industries.

Organized several National Workshops & Training programs for the one-week duration at IIT Roorkee related to synthesis and characterization of Nanomaterials.

Professional referees with whom I have interacted in the past:

- (1) Prof. Prem Vrat
Chairman, Board of Governors, IIT (ISM) Dhanbad
Former Director, IIT Roorkee
Tel.: **Mb: 9810568680**, Email: premvrat@gmail.com
- (2) Prof. Rajiv Prakash, Director
Indian Institute of Technology Bhilai, Raipur - 492015
E-mail: director@iitbhilai.ac.in, rprakash.mst@itbhu.ac.in,
Tel: +91-771-2973602, Mb: 99350 33011
- (3) Prof. K K Pant, Director
Indian Institute of Technology Roorkee, Roorkee-247667 (Uttarakhand)
Email: director@iitr.ac.in, Tel: 01332-272742, 285500(O), Mob : 9837070794,
- (4) Prof. A K Tyagi, Vice Chancellor
Mahatma Gandhi Kashi Vidyapith Varanasi, Uttar Pradesh - 221002
Email: vcmgkvp@gmail.com, akt@mgkvp.ac.in, Mb: 82880 12005, 94630 00886
- (5). Prof. Ashutosh Sharma, IIT Kanpur
Former Secretary, Department of Science and Technology
Email: ashutos@iitk.ac.in, Tel.: 0512 2597026, Mb: 99353 97366

(Ramesh Chandra)

PAPERS PUBLISHED IN REFEREED JOURNALS:

2026

1. Enhanced electrochemical performance of multilayer WO₃/MnO₂ thin films via sputtering on graphene substrate for high-stability supercapacitors
Nitesh Choudhary, A Tomar, G Malik, D Chaudhary, U Nandi, **Ramesh Chandra**, P K. Maji
J. Mater. Chem. A, **14** (2026) 1037-1062
2. Highly transparent nanocrystalline AlSiN coatings with enhanced hydrophobicity and mechanical durability deposited on sapphire substrates via RF magnetron sputtering
Raman Devi, Vimal Kant Mishra, S Singh, P Kumar, P Dubey, R Kumar, **Ramesh Chandra**
Vacuum **243**, (2026) 114786
3. Nano-interfaced WxMo_yO₃ heterostructure based highly selective and sensitive NO gas sensor
Somdatta Singh; R Adalati; Prachi Gurawal; Raman Devi; G Malik; D Kaur; **Ramesh Chandra**
Sensors & Actuators: B. Chemical, **451**, (2026) 139436
4. Role of Nano-twinning in governing plasticity, hardness, and adhesion of magnetron-sputtered Cr₂N coatings
Aakanksha Jain, **Ramesh Chandra**, Rahul S. Mulik
Mater Letters **406** (2026) 140001
5. A Sustainable Approach for Synthesizing Mo₂C MXene to Reduce the Wastage of Gallium for Energy Storage Devices
Pramod Kumar, Ananya Bansal, A Pandey, V Chawla, N Sardana, Ramesh Chandra
Chem. Eng. J. **529** (2026) 172778
6. Erosion–corrosion wear of Cr₂N/Ni₃N multi-layer coating deposited on Nickel aluminium bronze (NAB) using the DC magnetron sputtering system
Aakanksha Jain, Rahul S. Mulik, **Ramesh Chandra**
Ceramics International, **52** (2026) 9972–9984
7. Porous network assisted MoS₂-based humidity-resilient Chemi resistive sensor for NO₂ detection
Prachi Gurawal, S Singh, R Adalati, M Madaan, G Malik, V.K. Malik, R Chandra
Surfaces and Interfaces **86** (2026) 108727
8. A scalable approach towards lithium stabilization in the highly transparent and ionic conductive thin film Li_{1+x}Al_xTi_{2-x}(PO₄)₃ solid-state electrolyte
Ananya Bansal, P Kumar, A Choudhary, Sheetal Issar, Vipin Chawla, **Ramesh Chandra**
Materials Today Nano **34** (2026) 100827
9. Engineering cobalt-doped MoS₂ nanostructures on stainless steel for cost-effective supercapacitor electrodes
Anand Sagar, Ananya Bansal, Paritosh Dubey, Kamlesh Yadav, Somdatta Singh, Ashwani Kumar, Prashant Shahi, **Ramesh Chandra**, Rajan Walia
Ionics, **32**, (2026) 6673–6685. <https://doi.org/10.1007/s11581-026-07165-z>
10. Efficient urea electrooxidation on highly active Ni-Cu nanowires"
Marta Wala-Kapica , Tomasz Wasiak, Szymon Smykała, Alicja Kazek, Kęsik, Dorota Babilas Krzyżowska, Ananya Bansal, Ramesh Chandra, Dawid Janas, Wojciech Simka
I. J. Hydrogen Energy. **249**, (2026) 155960, <https://doi.org/10.1016/j.ijhydene.2026.155960>,

11. Heterointerface-Induced Charge Transfer Kinetics in Sputtered MoTe₂-MoS₂ Nanocomposite for High-Performance Ambient NO₂ Detection"
Kodan, Sonika; Issar, S; Jain, R; Singh, Somdatta; Malik, Vivek K.; Chandra, Ramesh
ACS Appl. Mater. Interfaces, **18** (2026), 37224- 37237
12. Tuning of competing magnetic interactions and enhanced skyrmion stability at elevated temperatures in β -Mn type Co₇Zn₇Mn₆ chiral magnet
Sneha Yadav, Satoshi Sugimoto, A Gangwar, S Kasai, Ramesh Chandra, Sandip Chatterjee
J. Alloys Compounds. **1080** (2026) 190231

2025

1. Advance biomass-derived cellulose composite electrodes for supercapacitors: a review
Nitesh Choudhary, Akshay Tomar, Shakshi Bhardwaj, Jakub Cwiertnia, Dominik Just, Dawid Janas, Ramesh Chandra and Pradip K. Maji
J. Mater. Chem. A, **13** (2025) 4012
2. Investigation of electrochemical properties of Pt-WO₃ nanocomposite thin films for supercapacitor applications”
Reenu Rani, A Kumar, M Sharma, Brij Mohan, R Kumar, Ramesh Chandra, V.K. Malik,
J Phys. Chem. Solids, **197**, (2025),112428.
3. Synergistically integrated WS₂-MoSe₂ nanowires co-sputtered over porous silicon towards ppb level NO₂ detection
Sonika Kodan, Sheetal Issar, Akshay Tomar, Vivek Malik, and Ramesh Chandra
Sensors & Actuators: B. Chemical **441** (2025) 138021
4. Correlative morphology effects on surface characteristics of hydrophilic h-MoS₂ thin films
Prachi Gurawal, Somdatta, G Malik, R Adalati, M Madaan, V.K. Malik, Ramesh Chandra
Mater. Chem. Phys. **341** (2025) 130870
5. MoS₂-MoSe₂ Nanoflakes-based n-n Heterojunction towards Highly Sensitive and Selective Room Temperature NO₂ Gas Sensor
Sonika Kodan, Sheetal Issar, Akshay Tomar, Vivek Malik, and Ramesh Chandra
Appl. Phys. Lett. **126**, (2025) 241602 <https://doi.org/10.1063/5.0274966>
6. Li-salt assisted high performance bimetallic titanium vanadium nitride-based symmetric supercapacitor device for energy storage application
Sheetal Issar, Sonika Kodan, A Bansal, A Tomar, Nitesh Choudhary, Ramesh Chandra
Electrochimica Acta. **535**, (2025) 146636
7. Unlocking Versatility of V₂O₅ Films for Next-Generation Batteries: A Binder-Free Approach
Ananya Bansal; Pramod Kumar; Kushagra Bharadwaj; Vipin Chawla; Ramesh Chandra
J. Power Sources **653** (2025) 237748, <https://doi.org/10.1016/j.jpowsour.2025.237748>
8. La₂NiMnO₆-modified flexible PVDF membranes for wastewater purification via coupled piezo contact electrocatalysis
A Gangal, Samta Manori, S Rana, Aakanksha Jain, Ramesh Chandra, R K Shukla
J. Water Process Engg, **76** (2025) 108202. (I.F. 6.7) DOI:
9. Radical-Mediated Photocatalytic Dye Degradation Antimi Properties of La₂NiMnO₆ Nanoparticles
Samta Manori, A Gangal, Aakanksha Jain Kaushik, Vishwajeet Bachhar, Vibha Joshi, M Duseja, Ramesh Chandra, Ravi Kumar Shukla
New J Chem., **49** (2025) 807 (I.F. 2.5). DOI: <https://doi.org/10.1039/D4NJ04437A>
10. Electrochemical Analysis of Flexible Symme Supercapacitors Using WSe₂@Graphite Thin Film Electrodes under Different pH Conditions
Akshay Tomar, N Choudhary, R Jain, D Chaudhary, G Malik, Sheetal Issar, Ramesh Chandra

11. Beyond Heat Harvesting: Thermoelectric Materials and Hybrid Devices for Smart Sensing and Sustainable Technologies
Neeraj Dhariwal, Preety Yadav, Akanksha, Sakshi Bisht, **Ramesh Chandra**, O. P. Thakur, Paul V. Braun, Sung Bum Kang, Amit Sanger, and Vinod Kuma
Adv. Energy Mater. 15, (2025), 2502895. doi: <https://doi.org/10.1002/aenm.202502895>
12. Tailored 2D Bi₂WO₆-rGO hybrid composites for flexible and wearable supercapacitor devices
Neeraj Dhariwal, Preety Yadav, Somdatta Singh, Amit Sanger, **Ramesh Chandra**, O. P. Thakur, and Vinod Kumar
Inorganic Chem. Commun. 182 (2025) 115398
13. Electrochemical Performance and Characterization of Supercapacitor Device Using Carbon Nanotube/Graphene Nanoplatelet Composites with Biomass-Derived Carbon Dots
Nitesh, Janas Dawid, **Ramesh Chandra**, P K Maji
Nanoscale 17, (2025) 24343-24366
14. An anion-sorted Li-ion electrolyte and flexible MnVO@SWCNT hybrid electrode for an efficient supercapacitor system,
R. Adalati, **S. Singh**, J. Ćwiertnia, D. Łukowiec, D. Choudhary, W. Simka, **R. Chandra**, D. Janas
Journal of Materials Chemistry A **13** (2025) 42215-42228.

2024

1. Recent Advancements in Nanocellulose-based Supercapacitor Energy Storage Devices: A Review
Nitesh Choudhary, Shiva Singh, Shakshi Bhardwaj, Sayan Gupta, Upendranath Nandi, Ramesh Chandra, Pradip K. Maji
Carbohydrate Poly Technol Appls , 7, (2024) 100416
2. Li Salt Assisted Highly Flexible Carbonaceous Ni₃N@polyimide Electrode for an Efficient Asymmetric Supercapacitor .
Ravikant Adalati, Siddharth Sharma, Meenakshi Sharma, Pramod Kumar, Ananya Bansal, Ashwani Kumar, Ramesh Chandra
Nano Letters, 24, (2024) 362-369.
3. Chemically tuned cellulose nanocrystals/single wall carbon nanosheet based electrodes for hybrid supercapacitors
Nitesh Choudhary, Shiva Singh, Gaurav Malik, Shakshi Bhardwaj, Siddharth Sharma, Akshay Tomar, Sheetal Issar, Ramesh Chandra, Pradip Kumar Maji
Sustainable Energy & Fuels **2024**, 8 (16), 3595–3609.
4. PdNPs/NiNWs as a welding tool for the synthesis of polyfluorene derivatives by Suzuki polycondensation under microwave radiation
Tomasz Wasiak, Dominik Just, Andrzej Dzieńia, Dariusz Łukowiec, Stanisław Waclawek, Anna Mielańczyk, Sonika Kodan, Ananya Bansal, **Ramesh Chandra** & Dawid Janas
Scientific Reports 14 (2024) 2336
5. Vertically Aligned MoSe₂-WS₂ Nanoworms Heterojunction towards Room Temperature NO₂ Gas
Sonika Kodan, Ashwani Kumar, Amit Sanger, Aisha Arora, Vivek Kumar malik, **Ramesh Chandra**
Sensors & Actuators: B. Chemical 407 (2024) 135481
6. Toward Enhancing the Thermoelectric Performance of PLD-Grown Single and Bilayer Bi₂Te₃ and Sb₂Te₃ Thin Films"
Akash Raj; Ashwani Kumar; Rinku Kumar; Ravi Kumar; **Ramesh Chandra**
J. Mater Sci: Mater Electr 35 (2024) 468
7. Highly responsive and selective NO gas sensing based on room temperature sputtered nanocrystalline WO₃/Si thin films
Somdatta Singh, Prachi Gurawal, Ravikant Adalati, Davinder Kaur, **Ramesh Chandra**
Micro and Nanostructures 188 (2024) 207794

8. Sputter Deposited Crystalline MoO₂ Films as a High-Capacity and Stable Electrode Material for Supercapacitors: Mechanistic/Electrochemical Insights"
Pramod Kumar, Ananya Bansal, Ravikant Adalati, Sheetal Issar, **Ramesh Chandra**
Electrochimica Acta **489** (2024) 144295
9. High-performance self-biased Cu/SiC/Si photo-sensor swift response for NIR/Vis photodetection
Alisha Arora, Parvesh Chander, S. Mourya, Somdatta, **Ramesh Chandra**, Vivek Malik
Appl. Surf. Sci. **665** (2024) 160292
10. Enhanced Supercapacitive Performance in Catalyst-Free Binary Composite SnO₂–RuO₂ Nanostructured Thin Films for Symmetric Supercapacitor Device
Reenu Rani, M Sharma, Brij Mohan, Ashwani Kumar, Ramesh Chandra, Vivek K Malik
EnergyTechnol. **12** (2024) 2301511
11. Emerging nanomaterials for hydrogen sensing: Mechanisms and prospects
Mitva Choudharya, A. Shrivastav, Anil K. Sinha, Amit K. Chawla, D.K. Avasthi, K. Saravanan, Satheesh Krishnamurthy, **Ramesh Chandra**, Shikha Wadhwa
I.J. Hydrogen Energy **77** (2024) 557–574
12. Self-assembled lyotropic liquid crystals from natural surfactant: A study on their structural, rheological and antimicrobial behaviour
Yogita, Prayas Singh, Samta Manori, Farheen, **K K Raina**, Ramesh Chandra, Ravi K. Shukla
Colloids and Surfaces A: Physicochemi. Engg. Aspects **696** (2024) 134371
13. High-voltage (> 3 V) energy storage device based on sputter-grown TiCrN microelectrodes towards miniaturized applications.
Sheetal Issar, Deepika Jhahria, Ravkant Adalati, Pramod Kumar, Sonika Kodan, Ramesh Chandra
J Energy Storage **95** (2024) 112569
14. Palladium enhanced electrochemical supercapacitive performance of Chromium oxide thin films synthesized by sputtering process"
Reenu Rani, Meenakshi Sharma, Siddharth Sharma, Ramesh Chandra, V. K. Malik
Thin Solid Films **799** (2024) 140379
15. Investigating the Electrical Transport and Photoresponse Properties of WSe₂ and a Thermally Engineered SrTiO₃-Based Heterojunction
Alisha Arora, Parvesh Chander, A Tomar, Sonika Kodan, **Ramesh Chandra**, Vivek Malik
ACS Appl. Electron. Mater. **6** (2024) 3186–3196
16. Synthesis, characterization of rare earth ion-doped YVO₄ thin-film phosphors grown by PLD
Suruchi Sharma, Atul Khanna, Rinku Kumar, and **Ramesh Chandra**
J Mater Sci: Mater Electron **35** (2024) 1219
17. Temperature-dependent wetting physical characteristics of sputtered grown WO₃ thin films
Somdatta Singh, Prachi Gurawal, Gaurav Malik, Davinder Kaur, and Ramesh Chandra,
Bulletin Mater. Sci. **47**, (2024) 137
18. Design of high-performance supercapacitor WSe₂ nanoflakes for energy storage applications
Akshay Tomar, Sheetal Issar, Nitesh Choudhary, Sonika Kodan, Ramesh Chandra
Energy & Fuels **38** (2024) 13425–13435
19. Highly efficient NO₂ gas sensor based on sputter-grown nanocrystalline MoO₃ thin films,
Somdatta Singh, Ravikant Adalati, P Gurawal, Gaurav Malik, Davinder Kaur, and Ramesh Chandra
Materials Letters, **369**, (2024) 136762
20. Binder Free Approach for Fabrication of Lithium Cobalt Oxide for Thin Film based Lithium-Ion μ -batteries
Ananya Bansal; Pramod Kumar; Sheetal Issar; Vipin Chawla; Ramesh Chandra
Thin Solid Films **805** (2024) 140506
21. Swift heavy ions induced transformations in the structural and magnetic properties of Co/Pt multilayer thin films for magnetic storage
Rajan Walia, F Singh, Ashwani Kumar, V K Singh, P.C. Agarwal, Vipin Chawla, Ramesh Chandra

22. WSe₂ Nanoflakes on Graphite Sheets for Flexible Symmetric Supercapacitors
Akshay Tomar, Nitesh Choudhary, Gaurav Malik, **Ramesh Chandra**
ACS Appl. Nano Mater. **7** (2024) 26111–26125. <https://doi.org/10.1021/acsanm.4c05378>

23. Investigation of electrochemical properties of Pt-WO₃ nanocomposite thin films for supercapacitor applications
Reenu Rani, Ashwani Kumar, M Sharma, Rinku Kumar, Ramesh Chandra, V.K. Malik
J. Phys. Chem. Solids **197** (2024) 112428 <https://doi.org/10.1016/j.jpcs.2024.112428>.

2023

1. Room temperature tunability of ferroelectricity and Di electricity in La and Mn cooped BiFeO₃ Nanoflakes: Implications for electronic devices applications
Arvind Kumar; Ashwani Kumar, Shekhar Tyagi; Ramesh Chandra; Davinder Kaur
Ceramic International **49** (2023) 1960-1969
2. Self-assembled Zinc Oxide Nanocauliflower and Reduced graphene oxide Nickle-foam based Noval Asymmetric Supercapacitor for Energy Storage Applications
Ashwani Kumar, Ravikant Adalati, Meenakshi Sharma, Nitin Choudhary, Kowsik Sambath Kumar, Luis Hurtado, Yeonwoong Jung, Yogesh Kumar, Jayan Thomas and **Ramesh Chandra**
Materials today Communications, **34** (2023) 105362
3. Coexistence of Space Charge Limited and Variable Range Hopping Conduction mechanism in Sputter-deposited Au/SiC Metal-Semiconductor-Metal device
Alisha Arora, Satyendra Mourya, Neetika Singh, Sandeep Kumar, **Ramesh Chandra**, V K Malik
IEEE Transactions on Electron Devices, **70** (2023) 714
4. Passivation of macroporous Si using sputtered TiN coating for on-chip energy storage
Deepika Jhahhria, Pranjala Tiwari, and Ramesh Chandra
J. Power Sources **561** (2023) 232743
5. Vertically Aligned Porous V_xO_y Nanofilms with Pt Decoration for Sub-ppm H₂ Gas Sensors
Jyoti Jaiswal, Abhijeet Das, Sanjeev Kumar, Ramesh Chandra, Kazuyoshi Tsuchiya
ACS Appl. Nano Mater. **6** (2023) 2646-2657
6. Physiological fluid based flexible NbN||TiN supercapacitor for biocompatible energy storage applications
Siddharth Sharma; Ravikant Adalati; Nitesh Choudhary; BS Unnikrishnan; Meenakshi Sharma; P. Gopinath; Ramesh Chandra
J Alloys. Comp. **960** (2023) 170749
7. Investigation of Wear and Corrosion Characteristics of PTFE/TiN Composite Coating on SS-304 Fabricated by Two-step Sputtering Technique
Gaurav Malik, Pranjala, Nitesh Chaoudhary, Ramesh Chandra
Surface & Coatings Technology **466** (2023) 129660
8. Pool boiling heat transfer enhancement of R134a, R32, and R600a using cavity surfaces
Uma Kant Shete Ravi Kumar & **Ramesh Chandra**
Experimental Heat Transfer **36** (2023) 528-547
9. Sputter-Deposited Nano-porous ZnO Electrode for Highly Efficient Optoelectronic and Solid-State Energy Storage Devices
Gaurav Malik, Satyendra Kumar Mourya, Ananya Garg, Priyanka, **Ramesh Chandra**
J Electronic Materials, **52** (2023) 3672–3684
10. Mn Incorporated CeO₂ Lattice Endorsement of Electrochemical Performance in Symmetric Supercapacitor Device
Meenakshi Sharma, Ravikant Adalati, Reenu Rani, Siddharth Sharma, Ashwani Kumar, Nitesh Choudhary, **Ramesh Chandra**
Energy Technol. (2023) 2300321
11. Enhanced electrochemical corrosion resistance of SS(304L) alloy with nano-pyramids c-TiN layer for saline media application
Gaurav Malik, A Kumar, R Adalati, Siddharth Sharma, A. Bansal, **Ramesh Chandra**
J Alloys Metallurgical Systems **3** (2023) 100028

12. Physiological fluid-assisted nanostructured NbN@Cu foam supercapacitor towards flexible and biocompatible energy storage applications
Siddharth Sharma, Ravikant Adalati, B S Unnikrishnan, A Bansal, Meenakshi Sharma, P Gopinath, **Ramesh Chandra**
J Energy Storage 73 (2023) 109089
 13. Griffiths Phase, Re-Entrant Spin-Glass Behaviour and Schottky Anomaly in Anti-Site Disordered Double Perovskite Pr₂MnNiO₆
Rinku Kumar, P Balasubramanian, M Anas, Ankita Singh, **Ramesh Chandra**,
and Vivek K Malik
Phys. Scr. 98 (2023) 105931
 14. Interface Engineering-Driven Room Temperature Ultra-Low Gas Sensor with Elucidating Sensing Performance of Heterostructure Transition Metal Dichalcogenide Thin Films"
Ashwani Kumar, Amit Sanger, Sung Bum Kang, and **Chandra, Ramesh**
ACS Sens., **8**, (2023) 3824–3835
- 2022**
1. Spin glass and exchange bias phenomena in NdSrNiMnO₆ nanoparticles:
Role of antiferromagnetic antisite disorders
Amit Kumar Singh & Ramesh Chandra
J Mag. Mag. Mat. 549 (2022) 169048
 2. Electrochemical corrosion characteristics of hierarchical O-TiN coating on 304L steel substrate in Surface & Coatings Technology
Gaurav Malik, Jignesh Hipara, Ankit Kumar, M. K. Pandey & Ramesh Chandra
Surf. Coat. Technol. 433, (2022) 128079
 3. Defects engineering and enhancement in optical and structural properties of 2D-MoS₂ thin films by high energy ion beam irradiation
Deepika Gupta, Vishnu Chauhan, Sonica Upadhyay, N. Koratkar, Fouran Singh, Shailendra Kumar, Aman Mahajan, **Ramesh Chandra**, Rajesh Kumar
Materials Chem. Phys 276 (2022) 125422
 4. *Optical and electrical tunability in vertically aligned MoS₂ thin films prepared by DC sputtering: Role of film thickness*,
Pranjala Tiwari, Jyoti Jaiswal, **Ramesh Chandra**
Vacuum **198** (2022) 110903
 5. NO₂ sensors based on crystalline MoSe₂ porous nanowall thin films with vertically aligned molecular layers prepared by sputtering
Jyoti Jaiswal, Abhijeet Das, Vivek Chetry, Sanjeev Kumar, **Ramesh Chandra**
Sensors & Actuators: B. Chemical, 359 (2022) 131552.
 6. *Large exchange bias due to spin-glass behavior in hexagonal-YMn_{0.8}Fe_{0.2}O₃ thin film*
Samta Manori and **Ramesh Chandra**
Physica B: Physics of Condensed Matter 634 (2022) 413829
 7. Design and Fabrication of Self-Compensating ZnSe Beam Splitter in LWIR Region
Rouchin Mahindra, Deepak Kumar, Satyavir, B B Nautiyal, J R Meena, **Ramesh Chandra**
Optik 262 (2022) 169299
 8. Heat-Transfer Enhancement for the Pool Boiling of Quasi-Azeotropic Refrigerant Mixture (R-410a) on the Re-Entrant Cavity Surfaces
Umakant Shete Ravi Kumar & **Ramesh Chandra**
J. Enhanced Heat Transfer, 29 (2022) 73-90
 9. Planar Micro supercapacitors Based on Oblique Angle Deposited Highly Porous TiN Films
Deepika Jhahhria, Pranjala Tiwari, **Ramesh Chandra**
ACS Appl. Mater. Interfaces, 14 (2022) 26162-26170
 10. The role of non-homogeneous barrier on the electrical performance of 15R–SiC Schottky diodes grown by *in-situ* RF sputtering
Satyendra Kumar Mourya, Gaurav Malik, Alisha, Brijesh Kumar, **Ramesh Chandra**
Mat. Sci. Semi. Processing 149 (2022) 106855
 11. Catalyst-free grown carbonaceous MoS₂ nanoworm electrodes for symmetrical supercapacitors

Ashwani Kumar, Shekhar Tyagi, Rinku Kumar, Siddharth Sharma, Meenakshi Sharma,
Ravikant Adalati, Yogesh Kumar, Ramesh Chandra
Materials Letters 323 (2022) 132576

12. Composite assembling of oxide-based optically transparent electrodes for high-performing asymmetric supercapacitors"
Sharma, Meenakshi ; Adalati, Ravikant; Ashwani; Mehta, Manan ; **Chandra, Ramesh**
ACS Appl. Mater. Interfaces, 14 (2022) 26791-26802
13. Growth and characterization of Cu₂O and CuO thin films
Jatinder Kaur, Atul Khanna, Rinku Kumar, and Ramesh Chandra
J Mater Sci: Mater Electron **33** (2022) 16154-16166
14. Metal nitride composite based nanostructured sheet-electrodes alternately stacked in asymmetric configuration towards robust flexible supercapacitor
Ravikant Adalati, Meenakshi Sharma, Ashwani Kumar, **Ramesh Chandra**
J. Energy Storage **55** (2022) 105617
15. Single-step fabrication of di-TiN thin-film flexible and biocompatible supercapacitor
Siddharth Sharma, Ravikant Adalati; Meenakshi Sharma; Shlok Jindal; Ankit Kumar, Gaurav Malik, Ramesh Chandra
Ceramic International 48 (2022) 34678-34687
16. Metal Nitrides as Efficient Electrode Material for supercapacitors: A Review
Ravikant Adalati, Meenakshi Sharma, Siddharth Sharma, Ashwani Kumar, Gaurav Malik, Rabah Boukherroub, **Ramesh Chandra**
J. Energy Storage **56** (2022) 105912
17. Dichroic Beam-Splitter for Visible, short-wave infrared, and mid-wave infrared
Rouchin Mahendra and Ramesh Chandra
Optical Engg. 61 (2022) 105111

(Ramesh Chandra)