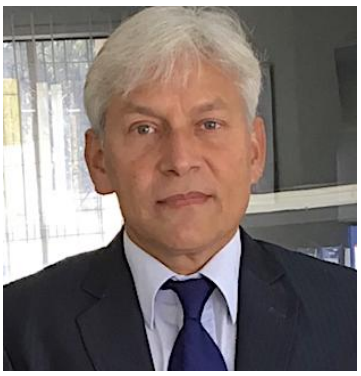
CURRICULUM VITAE



NAME: Dr. Ramesh Chandra
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Email: ramesfic@iitr.ac.in, ramesfic@gmail.com,

DATE OF BIRTH: April 24, 1964

EDUCATIONAL QUALIFICATIONS:

Ph. D (Physics)**:** National Physical Lab. New Delhi and I. I. T. Delhi in1993
M. Sc (Physics)**:** A.M.U.Aligarh in 1987

TEACHING & RESEARCH EXPERIENCE: 24 Years

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

AWARDS AND RECOGNITION'S:

1. **Dr**. **A.N.CHATTERJEE** memorial award on **High-Tc Squids** in 1990.
2. **Visiting Scientist** at T.I.F.R, Mumbai 1997 to 1999
3. **Visiting Associate** at IUAC, New Delhi for 3 years (1999-02)
4. **Commonwealth fellowship** at **University of Cambridge, UK** (2002 – 03).
5. **INSA Fellowship** to visit **University of Cambridge, UK** (2009 – 10).

ADMINISTRATIVE EXPERIENCE:

Head, IIC for 5 Years (2012 - 2016)
Head, DST SAIF (EPMA) Facility (Since 2014 ..Contd)

Organized several National Workshops & Training programs for one week duration at IIT Roorkee.

SPONSORED PROJECTS AT IIT ROORKEE
(COMPLETED)

S.N	Date	Agency	Title of the Project	Grant (Lacs)
1.	2005-07	DST	Study of Optical & Mech …	Rs. 24.00
2.	2006-09	CSIR	Optical characterization of nc films..	Rs. 14.00
3.	2006-08	DRDO	Scratch resistant optical Coatings on…	Rs. 10.00
4.	2006-09	DST	Superhard 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.	2009-11	DRDO	Optically transparent hard…..	Rs. 28.75
8.	2009-12	CSIR	Nanostructured hydrophobic Coatings…	Rs. 16.10
9.	2010-12	CPRI	Development of Silt Erosion Resistant…	Rs. 163.13
10.	2012-14	DRDO	Synthesis and Characterization of Metal oxide Nanoparticles.....	Rs. 12.46
Total Grant				**Rs. 390.44(lacs)**

(IN PROGRESS)

S.N	Date	Agency	Title of the Project	Grant (Lacs)
1.	2014-17	DRDO (TBRL)	Absorption studies of laser light in nanoparticles for laser initiation of high explosive	Rs. 38.02
2.	2014-17	DRDO DMSRDE	Development of SiC thin films for electronic applications	Rs. 20.70
3.	2016-18	DRDO	*Saline water protective antireflective coatings on Si Substrate*	Rs. 9.72
4.	2016-19	CPRI	Hydrophobic coatings on HV insulators	Rs.49.50
Total Grant				**Rs. 117.94 (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 rotory 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**

BROAD AREAS OF RESEARCH:

1. Nanostructures for energy conversion and catalysis
2. Super capacitors for energy storage
3. Development of Gas Sensors (H_2, CO, Cl_2, etc.)
4. Study of Hydrogen effects on selected nanostructured coatings
5. Fe doped SiC films for high temperature electronics
6. Development of wear Resistant Coatings on Structural Materials for Hydro applications
7. Synthesis & characterization of ordered magnetic nanostructures

Establishment of State of the art Research Laboratory at IIC

In addition to look after my primary duties related to maintenance & running of 22 Nos. Central facilities at this Centre, I have **established** Nanoscience Laboratory to synthesize Nanostructured materials by PVD processes. Theses include RF/DC Magnetron sputtering and Multi- chamber Excimer Laser based PLD (Lambda Physik, KrF) system with the facility to deposit Nanocrystalline powder, thin films and multilayers, heterostructures of functional nanomaterials. These facilities have been created with the help of sponsored research grants received from DST, CSIR, DRDO, DAE and CPRI.

At Institute Instrumentation Centre, IIT Roorkee, I am looking after the Central facilities (about 22 labs). These facilities are not only being used by IITR students/faculty, but other academic institutions and industry across the whole Nation.

RESEARCH GUIDANCE:

Degree	Awarded	submitted	in progress
Ph. D	16	1	9
M. Tech/Phil	18		

Research Publications in **Refereed Journals**: **170**

Presented in National/International **Conferences:** **122**

Delivered several Invited Talks at various National/International Conferences/Workshops across the Globe

Google Scholar Citations as on December 31, 2016

http://scholar.google.co.in/citations?hl=en&user=VOwGOJQAAAAJ

Citation indices	All	Since 2011
Citations	2225	1613
h-index	25	21
i10-index	72	61

Papers Published in last 3 years:

2016

44. Sputtered Synthesis of MnO_2 Nanorods as Binder Free Electrode for High Performance Symmetric Supercapacitors
Ashwani Kumar, Amit Sanger, Arvind Kumar, **Ramesh Chandra**
Electrochimica Acta, **222** (2016) 1761–1769 (IF4.80)

43. Power Effect on Structural and Thermal Properties of Magnetron Sputtered WO3 Nanoparticles
Monu Verma, Vinod Kumar Gupta, **Ramesh Chandra**
Advanced Science, Engineering and Medicine, **8**, (2016) 1–5

42. Toughness Enhancement in Zirconium-Tungsten-Nitride Nanocrystalline Hard Coatings
P Dubey, S Kumar Srivastava, **R Chandra**, and CV. Ramana
AIP Advances, 6, (2016) 075211

41. Single-step growth of pyramidally textured NiO ns with improved supercapacitive properties
Ashwani Kumar, Amit Sanger, Arvind Kumar, **Ramesh Chandra**
Inter. J. Hydrogen Energy (2016) **In Press**. I.F. - 3.20)
http://dx.doi.org/10.1016/j.ijhydene.2016.11.036

40. Determination of optical constants including surface characteristics of optically thick nanostructured Ti films: analyzed by spectroscopic ellipsometry
Jyoti Jaiswal, Satyendra Mourya, Gaurav Malik, Manpreet Singh, **Ramesh Chandra**
Applied Optics, *55*, (2016) 6368

39. Influence of thickness on structural, electrical and optical properties of DC sputtered Mo back contact for solar cell application,
Kumar A., Sanger A., Kumar A., **Chandra R**.,
Advanced Materials Letters, **7,** (2016), 100-105

38. Removal of hexavalent chromium ions using CuO nanoparticles for water purification applications
Vinod Kumar Gupta, Inderjeet Tyagi, Monu Verma, **Ramesh Chandra**
J. Colloid Interface Science, ***478***, *(2016) 54-62*

37. An efficient α-MnO2 nanorods forests electrode for EC capacitors with neutral aqueous electrolytes
Ashwani Kumar, Amit Sanger, Arvind Kumar, **Ramesh Chandra**
Electrochimica Acta, 220, (2016)712-720. (I.F. - 4.80)

36. Silicon Carbide Nano-Cauliflowers for Symmetric Supercapacitor Devices
Sanger, Amit; Kumar, Ashwani; Kumar, Arvind; Jain, Pawan; Mishra, Yogendra; **Chandra, Ramesh**
Ind. Eng. Chem. Res. **55** (2016) 9452−9458

35. Performance of High Energy Density Symmetric Supercapacitor based on Sputtered MnO2 Nanorods
Kumar Ashwani, Sanger, Amit; Kumar, Arvind; Kumar, Yogesh; **Chandra Ramesh**
ChemistrySelect, *1*, (2016) 3885 – 3891

34. Fast response ammonia sensors based on TiO_2 and NiO nanostructured bilayer thin films
Arvind Kumar, Amit Sanger, Ashwani Kumar, **Ramesh Chandra**
RSC Adv., **6** (2016) 77636-77643 (3.84)

33. A fast response/recovery of hydrophobic Pd/V_2O_5 thin films for hydrogen gas sensing
Amit Sanger, Ashwani Kumar, Arvind Kumar, **Ramesh Chandra**
Sensors & Actuators B: **236** (2016) 16-26

32. Cavitation Erosion Behavior of Nitrogen Ion Implanted 13Cr4Ni Steel
S. Verma, P. Dubey, A. W. Selokar, D. K. Dwivedi, **R. Chandra**
Trans Indian Inst Met (2016) DOI 10.1007/s12666-016-0887-7

31. Enhanced optical absorbance of hydrophobic Ti thin film: role of surface roughness
Jyoti Jaiswal, Amit Sanger, Ashwani Kumar, Satyendra Mourya, Samta Chauhan, Ritu Daipuriya, Manpreet Singh and **Ramesh Chandra**
Adv. Mater. Lett. **7** (2016) 485-90

30. Highly sensitive and selective CO gas sensor based on hydrophobic SnO_2/CuO bilayer
A. Kumar, A. Sanger, A. Kumar and **R. Chandra**
RSC Advances, **6** (2016) 47178 - 47184 (3.84)

29. Study of magnetic behavior in hexagonal-YMn1-xFe_xO_3 (x=0 and 0.2) nanoparticles using remnant magnetization curves
Samta Chauhan, Amit Kumar Singh, Saurabh Kumar Srivastava, **Ramesh Chandra**
J. Magnetism and Magnetic Materials, **414** (2016)187-193

28. Highly sensitive, selective H_2 gas sensor using sputtered grown Pd decorated MnO_2 nanowalls
Amit Sanger, Ashwani Kumar, Arvind Kumar, **Ramesh Chandra**
Sensors and Actuators B: **234** (2016) 8-14

27. Influence of antisite disorders on the magnetic properties of double perovskite Nd_2NiMnO_6
Amit Kumar Singh, Samta Chauhan, Saurabh Kumar Srivastava, **Ramesh Chandra**
Solid State Commun. 242, (2016) 74-78

26. Synthesis and characterization of magnetron sputtered ZrO_2 nanoparticles: Decontamination of 2-choloro ethyl ethyl sulphide and dimethyl methyl phosphonate
Monu Verma, **Ramesh Chandra**, Vinod Kumar Gupta
J. Environ. Chemi. Engg. 4, (2016) 219–229

25. Intrinsic Defects & Structural Phase of ZnS Nanocrystalline Films: Effects of Substrate Temperature
Shiv P. Patel, J. C. Pivin, **Ramesh Chandra,** D. Kanjilal, Lokendra Kumar,
J Mater Sci: Mater Electron, 27, (2016) 5640–5645

24. Decontamination of 2-chloro ethyl ethyl sulphide and dimethyl methyl phosphonate from aqueous solutions using manganese oxide nanostructures
Monu Verma, **Ramesh Chandra**, Vinod Kumar Gupta
J. Molecular Liquids 215 (2016) 285-292

2015

23. A room temperature H_2 sensor based on Pd-Mg alloy & multilayers prepared by sputtering
Yogendra K. Gautam, Amit Sanger, Ashwani Kumar, **Ramesh Chandra**
Inter. J. Hydrogen Energy 40 (2015) 15549-15555

22. Synthesis of magnetron sputtered WO_3 nanoparticles-degradation of 2-chloroethyl ethyl sulfide and dimethyl methyl phosphonate,
M. Verma, **R. Chandra**, V.K. Gupta,
J. Colloid Interface Sci., *453* (2015) 60-68.

21. Study on thermal stability and mechanical properties of nanocomposite Zr-W-B-N thin films
P. Dubey, V. Arya, S.K. Srivastava, D. Singh, and **R. Chandra**
Surf. Coats Technol. 284 (2015) 173-182

20. Weak-antilocalization and surface dominated transport in topological insulator Bi_2Se_2Te
Radha Krishna Gopal, Chiranjib Mitra, Sourabh Singh, **Ramesh Chandra,**
AIP ADVANCES 5, (2015) 047111

19. Dry Sliding and Abrasive Wear Behavior of Nanostructure Zr–W–N Coating
V Chauhan, P. Dubey, S.Verma, R. Jayaganthan, **R. Chandra**
Trans Indian Inst Met, **68**, (2015) 799-807

18. Fast & reversible H_2 sensing properties of Pd/Mg film modified by hydrophobic porous Si substrate
Amit Sanger, Ashwani Kumar, Samta Chauhan, Yogendra K. Gautam, **Ramesh Chandra**
Sensors & Actuators: B. **213** (2015) 252-260

17. **Structural and magnetic properties of pulsed laser deposited Fe–SiC thin films**
Mukesh Kumar, **Ramesh Chandra**, Raghwesh Mishra, Rajesh K. Tiwari, A.K. Saxena
Thin Solid Films, **579,** (2015) 64–67

16. The significant effect of film thickness on the properties of chalcopyrite thin absorbing films deposited by RF magnetron sputtering
Pradeep Mishra, V Dave, **R Chandra,** J N Prasad, A K Choudhary
Mats Sci. Semicond. Processing 34 (2015) 350

15. Synthesis of sputter deposited CuO nanoparticles & their use for decontamination of 2-chloroethyl ethyl sulfide (CEES)
Monu Verma, Vinod Kumar Gupta, V. Dave, **Ramesh Chandra**, G.K. Prasad
J. Colloids Interface Sci. 438 (2015) 102-09; **(3.55)**.

14. Ferromagnetism in Ni doped ZnS thin films: Effects of Ni concentration and SHI irradiation
Shiv P. Patel, J.C. Pivin, **R. Chandra**, D. Kanjilal, Lokendra Kumar
Vacuum 111 (2015) 150-156

2014

13. A study on consequence of SHI irradiation of Zn – SiO_2 composite thin film:Electronic sputtering
Compesh Pannu, Udai B. Singh, D. C. Agarwal, **R. Chandra**, D. K. Avasthi
Beilstein J. Nanotechnol. **5** (2014):1691–1698

12. Wettability & Optical Studies of Co-sputtered Cr and Zr Targets Films Prepared of by Sputtering
Sushant K Rawal and **Ramesh Chandra**
Procedia Technology 14 (2014) 304–311

11. Conduction mechanism and bandgap engineering in pulsed laser deposited Cd12xPbxS films
Sanjeev Kumar, Ashvani Kumar, Naresh Kumar, Amarjyoti Goswami, and **Ramesh Chandra**
J. Appl. Phys.116 (2014) 073504-6

10. Effect of Annealing Temperature on the Physical Properties of Zn-ferrite Nanoparticles
Sushant Singh, Naresh Kumar, Amit Chawla, **R. Chandra,** Sanjeev Kumar,
J. Superconductivity & Novel Magnetism, 27 (2014) 821-826

9. Study of thermal stability & mechanical properties of fcc phase Zr22W19N58 thin films deposited by reactive magnetron sputtering
P. Dubey, V. Arya, S.K. Srivastava, D. Singh, **R. Chandra**
Surface & Coatings Technology 245 (2014) 34-39

8. Thickness dependent exchange bias in co-sputter deposited Ni-Mn-Al Heusler alloy hard films
A. Mishra, S.K. Srivastava, Arvind Kumar, P. Dubey, Samta Chauhan, D. Kaur, **R. Chandra**
Thin Solid Films, 572 (2014), 142-146

7. Effect of processing parameter on structural, optical and electrical properties of photovoltaic chalcogenide nanostructured RF magnetron sputtered thin absorbing films
Pradeep Mishra, V Dave, **R Chandra,** J N Prasad, A K Choudhary
Materials Science in Semiconductor Processing 25 (2014) 307

6. Magnetic & Raman scattering studies of Co-doped ZnO thin films by pulsed laser deposition
Arun Aravind, K. Hasna, M. K. Jayaraj, Mukesh Kumar and **Ramesh Chandra**,
Appl Phys A 115 (2014) 843-8449

5. Phenothiazine-Capped Gold Nanoparticles: Photochemically Assisted Synthesis and Application in Electrosensing of Phosphate Ions
Sandeep Gupta, Akhilesh K. Singh, Ravish K. Jain, **Ramesh Chandra**, and Rajeev Prakash
Chem Electro Chem, **1** (2014) 1–7

4. Nanostructured Hydrophobic DC sputtered Inorganic Oxide coating for Outdoor Glass Insulators
V. Dave, H.O. Gupta**, R. Chandra**
Applied Surface Science 295 (2014) 231–239

3. SHI induced enhancement in green emission from nc CdS thin films for photonic applications
Pragati Kumar, Nupur Saxena, Avinash Agarwal, D. Kanjilal, **Ramesh Chandra**
Journal of Luminescence 147 (2014) 184–189

2. The influence of sputtering parameters on structural, wettability & optical properties of Zr_2ON_2 thin films
Sushant K Rawal, R Jayaganthan, **Ramesh Chandra**
Mats. Sci. & Engg. B, **181**(2014) 16-23

1. Study of structural and optical properties of $Zn_{1\_x}\ Al_xO$ nanoparticles
Atikur Rahman, R. Jayaganthan , **Ramesh Chandra**
Materials Science in Semiconductor Processing 18 (2014) 15–21

R Chandra

(Dr. Ramesh Chandra)