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Professional Experience

*I. Professor, Department of Physics, **Indian Institute of Technology**, Kharagpur, West Bengal, India, February 2020 – onwards*
*II. Associate Professor, Department of Physics, **Indian Institute of Technology**, Kharagpur, West Bengal, India, August 2014 – February 2020*
*III. Assistant Professor, Department of Physics, **Indian Institute of Technology**, Kharagpur, West Bengal, India, January 2009 – August 2014.*
*IV. Research Officer, Physical Science, University of Surrey, Guildford GU27XH, **United Kingdom,** Jan. 2007 – January 2009.*
*V. Max Planck Post Doctoral Fellow Max Planck Institute for Polymer Research, Mainz, **Germany,** June 2005 – December 2006.*
*VI. Senior Research Fellow, School of Materials Science and Technology, **Institute of Technology**, B.H.U., Varanasi, India, August 2002 – April 2005.*
*VII. Ph.D. (Materials Science and Technology), School of Materials Science and Technology, **Institute of Technology**, B.H.U., Varanasi, India. December 2004*
*VIII. M.Sc. (Physics), Department of Physics, **Banaras Hindu University**, Varanasi, 1998.*
*IX. B.Sc. (Physics) Department of Physics, **Banaras Hindu University**, Varanasi, 1996.*

Major Research Areas: **Energy storage devices, functional nanomaterials, sensors and gas sensors.**

Research Publications**: > **110 (for details: see http://www.iitkgp.ac.in/department/PH/faculty/ph-achandra#resp-tab2)
Patents:1 Books: 4 Conference Papers: 90

Teaching Experience: UG + PG courses for 14 years.
Courses Taught: (i) Science & Technology of Nanomaterials, (ii) Condensed Matter Physics (iii) Physics I, (iv) Physics of Functional Materials (v) Analytical Techniques, (vi) Experimental Methods, (vii) Electronics for Physicists, (viii) Physics Labs (ix) Physics of Renewable Energy Systems (x) Fluid Mechanics and Elasticity (xi) Thin Film Technology

Number of Students Supervised/ Guided:
Ph.D. s: 11 completed (+ 9 ongoing) ***M.Tech.s: 16 completed (+ 1 ongoing)***
M.Sc.: 18 completed (+ 2 ongoing)

Awards/Recognitions/Achievements
1.0. Society of Materials Chemistry **"Silver Medal"** (2023) for the contribution in the field of materials science.
2.0. Expert Committee Member, PLI scheme for Advanced Chemistry Cell (ACC) Battery Storage, **Ministry of Heavy Industries (2023)**
3.0. Expert Panel Member for Screening of the Letter of Intent (LoI) received against the **DST** call on Integrated Clean Energy Material Acceleration Platform(IC-MAP) in the area of Materials, Devices & Sensors. **(2020)**
4.0. ENDEAVOUR EXECUTIVE FELLOWSHIP AWARD, *Government of Australia,* 2018.

5.0. ALEXANDER VON HUMBOLDT CONNECT FELLOWSHIP, *AvH Foundation (Germany),* 2013.
6.0. IIT FACULTY – DAAD EXCHANGE FELLOWSHIP, *DAAD (Germany),* 2012.
7.0. MAX PLANCK INDIA FELLOWSHIP AWARD, *Max Planck Society (Germany),* 2010.
8.0. YOUNG SCIENTIST RESEARCH AWARD, *Department of Atomic Energy (DAE), India,* 2010.
9.0. YOUNG SCIENTIST AWARD, *Indian Science Congress Association, India,* 2004.
10.0. YOUNG SCIENTIST AWARD, *International Conference on Electroactive Polymers:Materials and Devices, Dalhousie, India,* 2004.

Awards WON Alongwith my Research Team and Students

1) **Puja De** and A Chandra, **Suresh Chandra Memorial Award**, at 1st International Conference on Supercapacitors and Batteries, SUPERBATS - 2022, IIT Kharagpur, India-2022.
2) **Surbhi Priya** and A Chandra, **Best Poster Award** at 1st International Conference on Supercapacitors and Batteries, SUPERBATS - 2022, IIT Kharagpur, India-2022.
3) **Puja De**; Debabrata Mandal; Abhishek Kumar; Sudipta Biswas; Amreesh Chandra, **Best Poster Award** at DAE-SSPS 2021 Symposium held online from Dec. 15-19, 2021.
4) Debabrata Mandal, Young Scientist Award, at 107th Indian Science Congress held at GKVK Campus, Bangalore, Karnataka, INDIA-2020.
5) **Vikas Sharma** and Amreesh Chandra, ***Best Oral Presentation***, at 5th International Conference on Nanoscience and Nanotechnology (ICONN-2019), SRM IST, INDIA-2019
6) **Surbhi Priya** and Amreesh Chandra, ***Best Paper Presentation Award***, at 5th International Conference on Nanoscience and Nanotechnology (ICONN-2019), SRM IST, INDIA-2019
7) **Vikas Sharma** and Amreesh Chandra, ***Young Scientist Award***, at 7th International Conference on Electroactive Polymers (ICEP-2019), Udaipur, INDIA-2019
8) **Prasenjit Haldar** and Amreesh Chandra, ***Best Poster Award***, at International conference on Nanotechnology: Ideas, Innovations, and Initiatives-2017 (ICN:3I-2017), IIT Roorkee, INDIA-2017
9) **Prasenjit Halder** and Amreesh Chandra, **BEST POSTER AWARD**, 12th National Conference on Solid State Ionics (NCSSI-12) organized by Department of Physics BITS Pilani, Pilani Campus, Dec. **2017**
10) Vikas Sharma and Amreesh Chandra, **BEST POSTER AWARD**, International Symposium on Functional Materials (ISFM-2018), organized by IIT Kanpur, Panjab University and University of Illinois Chicago at Chandigarh in April **2018**.
11) **Vikas Sharma** and Amreesh Chandra, ***2nd position in Poster Presentation***, at International conference on Nanotechnology: Ideas, Innovations, and Initiatives-2017 (ICN:3I-2017), IIT Roorkee, INDIA-2017
12) **Inderjeet Singh**, Sayan Dey, Sumita Santra, and Amreesh Chandra, **SURESH CHANDRA MEMORIAL AWARD FOR BEST POSTER**, 6th International Conference on Electroactive Polymers and Ceramics held at IIT Kharagpur in Feb. **2017**
13) Vikas Sharma and Amreesh Chandra, **BEST POSTER AWARD**, Research Scholars Day, School of Nanoscience and Nanotechnology, IIT Kharagpur, **2016**
14) **Sushanta Lenka** and Amreesh Chandra, **3rd position in Poster Presentation**, at International conference on Nanotechnology: Ideas, Innovations, and Initiatives-2017 (ICN:3I-2017), IIT Roorkee, INDIA-2017
15) **Inderjeet Singh** and Amreesh Chandra, **BEST POSTER AWARD**, 100th Indian National Science Congress Meeting, Kolkata, **2013**.
16) **A. Singh** and Amreesh Chandra, **YOUNG SCIENTIST AWARD**, 100th Indian National Science Congress Meeting, Kolkata, **2013**
17) **A. Singh** and Amreesh Chandra**, BEST POSTER AWARD**, 5th International Conference on Electroactive Polymers: Materials and Devices, BHU, Varanasi, **Nov. 2012**.
18) **J. Khera** and Amreesh Chandra **BEST POSTER AWARD**, 4th International Conference on Electroactive Polymers: Materials and Devices, Surujkund, **Nov. 2010**.

Sponsored/Funded Projects undertaken/ currently being supervised as Principal Investigator

I) ***Functional and Flexible Polymer nanocomposites using Hierarchical nano-metal oxides for defence application***
Sponsoring Agency: **DRDO** (India) (2022-2025)
TOTAL GRANT: ~Rs. 79.60 Lakhs

II) ***Hierarchically nanostructured energy materials for next generation Na-ion storage systems and their use in renewable energy systems.***
Sponsoring Agency: **DST** (India) (2017-2022)
TOTAL GRANT: ~Rs. 94.5 Lakhs

III) Head, Max Planck Partner Group on *Hybrid Nanostructures for alternative energy systems*
Sponsoring Agency: **IGSTC** (India) and **MPG** (Germany) (Five years - 2014-19).
TOTAL GRANT: ~Rs. 1.5 CRORES

IV) ***Next Generation Supercapacitors with High Energy Storage Capacity***
Sponsoring Agency: **SGIRG Scheme**, Indian Institute of Technology Kharagpur (2014-16)
TOTAL GRANT: Rs. 25 LAKHS

V) ***Use of Nanomaterials in Alternative Energy Systems***
Sponsoring Agency: **Indo-UK UKIERI** Thematic Exchange Project (2012-2014)
TOTAL GRANT: *UK POUNDS* 40,000 (~Rs. 36.00 Lakhs)

VI) ***Polymer composites for energy Systems***
Sponsoring Agency: **Max Planck Society**, Germany (2010-13)
TOTAL GRANT: *EUROS* 12,000 (Rs. 8.00 Lakhs)

VII) ***Structural Phase Transition Studies in Multifunctional Ceramics***
Sponsoring Agency: **DAE-BRNS, BARC**, Mumbai, India. (2010-2013)
TOTAL GRANT: ~ Rs. 21 LAKHS

VII) ***Multifunctional Ceramics and Polymer Composites: Their Synthesis and Characterization***
Sponsoring Agency: **ISIRD, IIT Kharagpur**, India (2010-2013)
TOTAL GRANT: ~Rs. 5.0 LAKHS

[B] **Sponsored/Funded Projects undertaken as Co- Principal Investigator**

I) ***Extensional rheometer for microscale samples***
Sponsoring Agency: DST (India) (2013-16), **Total Grant: ~RS. 44.00 Lakhs**

II) ***Fist Project – To strengthen the post graduate teaching and research facilities in the department***
Sponsoring Agency: DST (India) (2011-16), **Total Grant: ~ RS. 365.00 Lakhs**

III) Hybrid Sodium –ion cell/ supercapacitor packs for light electric vehicles,
Sponsoring Agency**: MHRD India**: **Total Grant:** ~318 Lakhs

IV) Centre of Excellence on Energy Aware Urban Infrastructure
Sponsoring Agency**: SERB (DST): Total Grant:** ~17.5 Crores

List of Publications

Patents:

1) BUBBLE WRAPPING FOR PROTECTING SUPERCAPACITORS FROM EXTERNAL VIBRATIONS Biswas S., Mandal D. , Chowdhury A. , Sharma V. , Amreesh Chandra (2022)
2) METAL ORGANIC FRAMEWORK BASED CATHODE MATERIALS FOR LOW-COST AQUEOUS NOVEL ALUMINUM-ION BATTERIES. De P., Halder J. , Mandal D. , Priya S. , Kansal S. , Anshu S. , Amreesh Chandra (2022)
3) USE OF SODIUM IRON PHOSPHATE (NaFePO4) AS BATTERY MATERIAL FOR E-CYCLE. Priya S., Biswas S. , Chowdhury A. , Mandal D. , De P. , Halder J. , Kansal S. , Anshu S. , Amreesh Chandra (2022)

Journal Publications:

1) Tuning Na2Ti3O7 Nanostructures for Tailoring High-Performance Na-Ion Supercapacitors
P De, D Mandal, S Biswas, A Kumar, S Priya, BK Dubey, AK Srivastava, A Chandra.
Energy & Fuels 37 (7), 5595-5606 (2023)
2) Bricks of Co, Ni doped Fe3O4 as high performing pseudocapacitor electrode
J Halder, P De, D Mandal, A Chandra. **Journal of Energy Storage** 58, 106391 (2023)
3) 2D flakes of Au decorated SnO2 nanoparticles as electrode material for high performing supercapacitor. S Anshu, S Priya, D Mandal, R Rahul, T Singh, A Chandra
Journal of Physics D: **Applied Physics** 56 (20), 205501 (2023)
4) High performing supercapacitors using Cr2O3 nanostructures with stable channels-theoretical and experimental insights. Sakshi Kansal, Joyanti Halder, Debabrata Mandal, R. Rahul, Surbhi Priya, Puja De, Vikas Sharma, Alok Kumar Srivastava, Trilok Singh, Amreesh Chandra
Materials Science and Engineering B 293, 116438 (2023)
5) X-ray photoelectron spectra, conductivity, and oxygen permeation characteristics of (Ba0. 5Sr0. 5)(Fe1-xCex) O3-δ (x= 0–1.0) perovskites. S Chauhan, A Chandra, SK Jaiswal
Materials Chemistry and Physics 297, 127408 (2023)
6) Two-Dimensional V2O5 Nanosheets as an Advanced Cathode Material for Realizing Low-Cost Aqueous Aluminum-Ion Batteries. P De, J Halder, S Priya, AK Srivastava, A Chandra
ACS Applied Energy Materials 6 (2), 753–762 (2023)
7) Electrochemical performance of K+ intercalated MnO2 nano-cauliflowers and their Na-ion-based pseudocapacitors. A Chowdhury, R Shukla, K Bhattacharyya, AK Tyagi, A Chandra, V Grover
Materials Science and Engineering: B 295, 116581-116592 (2023)
8) Highly fluorescent graphene quantum dots as "turn off–on" nanosensor for detecting toxic metal ions to organic pollutant. D Mandal, P De, S Khatun, AN Gupta, A Chandra
International Journal of Environmental Science and Technology, 1-12 (2023)
9) Utilization of DNA and 2D Metal Oxide interaction for optical biosensor
P Kumbhakar, ID Jana, S Basu, S Mandal, S Banerjee, S Roy, CC Gowda, Anyesha Chakraborty, Ashim Pramanik, Pooja Lahiri, B Lahiri, Amreesh Chandra, P Kumbhakar, A Mondal, P K Maiti, C S Tiwary. **Physical Chemistry Chemical Physics** (2023)
10) Dimensionality effects of g-C3N4 from wettability to solar light assisted self-cleaning and electrocatalytic oxygen evolution reaction. S K Kuila, S K Guchhait, D Mandal, P Kumbhakar, Amreesh Chandra, C S Tiwary, T K Kundu. **Chemosphere 333**, 138951 (2023)
11) Time Dependent Exfoliation Study of MoS_2 for its use as Cathode Material in High Performing Hybrid Supercapacitors. S Priya, D Mandal, A Chowdhury, S Kansal, A Chandra
Nanoscale Advances 5, 1172-1182 (2023)
12) Hydrothermally grown SnS2/Si nanowire core-shell heterostructure photodetector with excellent optoelectronic performances. S Das, S Pal, K Larsson, D Mandal, S Giri, P Banerji, A Chandra, R Basori. **Applied Surface Science 624**, 157094 (2023)
13) Enhanced Optoelectronic Performance of Silicon Nanowire/SnS Core-Shell Heterostructure With Defect Passivation in SnS by UV Treatment. S Das, S Pal, D Mandal, P Banerji, A Chandra, R Basori
IEEE Transactions on Electron Devices (2023)
14) Pseudo 2-dimensional nanostructures of metal oxides for high-performance supercapacitors. D Mandal, S Biswas, A Chowdhury, Amreesh Chandra. **Materials Advances** (2022).
15) Nano $Ni_{1-x}Co_xO$ system: Composition dependent phase evolution and electrochemical behaviour. S Banerjee, A Chowdhury, Amreesh Chandra, V Grover. **Materials Chemistry and Physics** 286, 126202 (2022)
16) 2D Flower-like Porous Nanostructures of Layered SnS_2 for High-Performance Supercapacitors: Correlating Theoretical and Experimental Studies. D Mandal, J Halder, P De, A Chowdhury, S Biswas, Amreesh Chandra. **ACS Applied Energy Materials** (2022)

17) Superior-catalytic performance of Ni-Co Layered double hydroxide nanosheets for the reduction of p-nitrophenol. S Kansal, P Singh, S Biswas, C Ananya, M Debabrata, S Priya, T Singh, Amreesh Chandra. **International Journal of Hydrogen Energy** (2022).
18) Green Synthesis of Sr2+ doped multiferroic BiFeO3 nanoceramics using Aloe vera biotemplates and their characterizations. S.K. Mandal, P. Kiran, P S Rao, Amreesh Chandra. **Journal of Alloys and Compounds**, 166107-, 1, (2022)
19) Understanding the electrocatalysis OER and ORR activity of ultrathin spinel Mn_3O_4. CC Gowda, A Mathur, A Parui, P Kumbhakar, P Pandey, S Sharma, Amreesh Chandra, A K Singh, A Halder, C S Tiwary. **Journal of Industrial and Engineering Chemistry** (2022)
20) Graphene decorated $LiMn_2O_4$ Electrode Material for hybrid type Energy storage devices. D Mandal, L Bharti, S Biswas, Amreesh Chandra. **Energy Storage** (2022)
21) Structure–property correlation in (1-y) $Bi_{0.9}Ca_{0.1}FeO_3$-(y) $PbTiO_3$ ($0.0< y< 1.0$) solid solutions. P Tirupathi, SK Mandal, A Chandra. **Journal of Electroceramics**, 1-15 (2022)
22) High-Performance, Nitrogen-Doped, Carbon-Nanotube-Based Electrochemical Sensor For Vitamin D3 Detection. H Bora, D Mandal, A Chandra. **ACS Applied Bio Materials** 5 (4), 1721-1730 (2022)
23) Carbon material produced by hydrothermal carbonisation of food waste as an electrode material for supercapacitor application: A circular economy approach. S Venna, HB Sharma, D Mandal, HP Reddy, S Chowdhury, Amreesh Chandra, B K Dubey. **Waste Management & Research**, 40 (10), 1514-1526 (2022)
24) Redox mediator induced electrochemical reactions at the electrode-electrolyte interface: Making sodium-ion supercapacitors a competitive technology. A Chowdhury, S Biswas, T Singh, A Chandra. **Electrochemical Science Advances** 2 (1), e2100030, 3, (2022)
25) Perovskite Solar Cells: Assessment of the Materials, Efficiency, and Stability
B Boro, S Porwal, D Kumar, S Mishra, S Ghosh, S Kansal, A Chandra, T Singh
Catalysis Research 2 (4), 1-48 (2022)
26) Facile strategy of using conductive additive supported NaMnPO4 nanoparticles for delivering high performance Na-ion supercapacitors. A Chowdhury, S Biswas, D Mandal, A Chandra. **Journal of Alloys and Compounds**, 163733, 1, (2022)
27) Role of porosity and diffusion coefficient in porous electrode used in supercapacitors – Correlating theoretical and experimental studies. Puja De, Joyanti Halder, Chinmayee Chowde Gowda, Sakshi Kansal, Surbhi Priya, Satvik Anshu, Ananya Chowdhury, Debabrata Mandal, Sudipta Biswas, Brajesh Kumar Dubey, Amreesh Chandra. **Electrochemical Science Advances** 1, 1-15 (2022)
28) Facile strategy of using conductive additive supported NaMnPO4 nanoparticles for delivering high performance Na-ion supercapacitors. A Chowdhury, S Biswas, D Mandal, Amreesh Chandra. **Journal of Alloys and Compounds**, 163733 (2022)
29) Stable Na-ion supercapacitor under non-ambient conditions using maricite-NaMnPO4 nanoparticles
A Chowdhury, S Biswas, A Dhar, PS Burada, Amreesh Chandra. **Journal of Power Sources** 516, 230679 (2021).
30) High performance magnetic pseudocapacitors-Direct correlation between specific capacitance and diffusion coefficients, A Chowdhury, S Biswas, V Sharma, J Halder, A Dhar, B Sundaram, B K Dubey and Amreesh Chandra. **Electrochimica Acta** 397, 139252 (2021).
31) Anomalous structural behavior and antiferroelectricity in BiGdO3: Detailed temperature and high-pressure study. R Jana, A Dutta, P Saha, K Mandal, B Ghosh, Amreesh Chandra, I Das, G D Mukherjee **Journal of Physics: Condensed Matter** 33, 495403 (2021).
32) Emerging two-dimensional tellurides. Saif Siddique, Chinmayee Chowde Gowda, Solomon Demiss, Raphael Tromer, Sourav Paul, Kishor Kumar Sadasivuni, Emmanuel Femi Olu, Amreesh Chandra, Vidya Kochat, Douglas S Galvão, Partha Kumbhakar, Rohan Mishra, Pulickel M Ajayan, Chandra Sekhar Tiwary**. Materials Today** 1 (2021).
33) Scalable Synthesis of Atomically Thin Gallium Telluride Nanosheets for Supercapacitor Applications

Saif Siddique, Chinmayee C Gowda, Raphael Tromer, Solomon Demiss, Abhay R Singh Gautam, Olu E Femi, Partha Kumbhakar, Douglas S Galvao, Amreesh Chandra, Chandra S Tiwary. **ACS Applied Nano Materials** 4 (5), 4829-4838 (2021).

34) Hierarchical SnO_2 nanostructures for potential VOC sensor. S Priya, J Halder, D Mandal, A Chowdhury, T Singh, Amreesh Chandra. **Journal of Materials Science** 56 (16), 9883-9893 (2021).
35) Convert waste petroleum coke to multi-heteroatom self-doped graphene and its application as supercapacitors. D Mandal, PL Mahapatra, R Kumari, P Kumbhakar, A Biswas, B Lahiri, Amreesh Chandra and C S Tewary**. Emergent Materials** 4 (2), 531-544 (2021)
36) Emerging 2D metal oxides and their applications. Partha Kumbhakar, Chinmayee Chowde Gowda, Preeti Lata Mahapatra, Madhubanti Mukherjee, Kirtiman Deo Malviya, Mohamed Chaker, Amreesh Chandra, Basudev Lahiri, PM Ajayan, Deep Jariwala, Abhishek Singh, Chandra Sekhar Tiwary. **Materials Today,** 21 (2021)
37) Hierarchical $NaFePO_4$ nanostructures in combination with an optimized carbon-based electrode to achieve advanced aqueous Na-ion supercapacitors. S Biswas, D Mandal, T Singh, Amreesh Chandra. **RSC Advances** 11 (48), 30031-30039 (2021)
38) Redox mediator induced electrochemical reactions at the electrode-electrolyte interface: Making sodium-ion supercapacitors a competitive technology. A Chowdhury, S Biswas, T Singh, Amreesh Chandra. **Electrochemical Science Advances**, e2100030 (2021)
39) External vibrations can destroy the specific capacitance of supercapacitors–from experimental proof to theoretical explanations. S Biswas, V Sharma, T Singh, Amreesh Chandra. **Journal of Materials Chemistry A** 9 (10), 6460-6468 (2021)
40) A study of microbially fabricated bio-conjugated quantum dots for pico-molar sensing of H 2 O 2 and glucose. R Mahle, D Mandal, P Kumbhakar, Amreesh Chandra, CS Tiwary, R Banerjee. **Biomaterials Science**,9 (1), 157-166 (2021)
41) Theoretical model for magnetic supercapacitors—From the electrode material to electrolyte ion dependence. A Chowdhury, A Dhar, S Biswas, V Sharma, PS Burada, Amreesh Chandra. **The Journal of Physical Chemistry C** 124 (49), 26613-26624 (2020).
42) Hierarchical cage-frame type nanostructure of CeO_2 for bio sensing applications: from glucose to protein detection.D Mandal, S Biswas, A Chowdhury, D De, CS Tiwary, AN Gupta, T Singh, and Amreesh Chandra. **Nanotechnology** 32 (2), 025504 (2020).
43) Curcumin complexed with graphene derivative for breast cancer therapy. D De, CK Das, D Mandal, M Mandal, N Pawar, Amreesh Chandra, AN Gupta. **ACS Applied Bio Materials** 3 (9), 6284-6296.
44) Controlling reaction kinetics of layered zinc vanadate having brucite-like Zn–O layers supported by pyrovanadate pillars for use in supercapacitors. A Chowdhury, R Shukla, V Sharma, S Neogy, Amreesh Chandra, V Grover, A K Tyagi. **Journal of Alloys and Compounds** 829, 154479 (2020)
45) Hollow nanostructures of metal oxides as emerging electrode materials for high performance supercapacitors. S Biswas, V Sharma, D Mandal, A Chowdhury, M Chakravarty, S Priya, T. Singh and Amreesh Chandra. **CrystEngComm** 22 (9), 1633-1644 (2020)
46) Mn3O4-polyaniline-graphene as distinctive composite for use in high-performance supercapacitors. P Haldar, S Biswas, V Sharma, A Chowdhury, Amreesh Chandra. **Applied Surface Science** 491, 171-179 (2019)
47) Effect of laser irradiation on graphene oxide integrated TE-pass waveguide polarizer. S Ghosh, D Mandal, Amreesh Chandra, SNB Bhaktha. **Journal of Lightwave Technology** 37 (10), 2380-2385 (2019)
48) Performance of Na-ion supercapacitors under non-ambient conditions—from temperature to magnetic field dependent variation in specific capacitance. S Biswas, A Chowdhury, Amreesh Chandra. **Frontiers in Materials** 6, 54 (2019)
49) DNA supported graphene quantum dots for Ag ion sensing. D Mandal, AN Gupta, Amreesh Chandra. **Nanotechnology** 30 (25), 255501 (2019)

50) Addition of redox additives—synergic strategy for enhancing the electrochemical activity of spinel Co3O4 based supercapacitors. MA Akhtar, A Chowdhury, Amreesh Chandra. **Journal of Physics D: Applied Physics** 52 (15), 155501 (2019)
51) Electrode Materials with Highest Surface Area and Specific Capacitance Cannot Be the Only Deciding Factor for Applicability in Energy Storage Devices: Inference of Combined Life Cycle Assessment and Electrochemical Studies. V Sharma, S Biswas, B Sundaram, P Haldar, B Dubey, Amreesh Chandra. **ACS Sustainable Chemistry & Engineering** 7 (5), 5385-5392 (2019)
52) Quantification of protein aggregation rates and quenching effects of amylin–inhibitor complexes. S Khatun, A Singh, D Mandal, Amreesh Chandra, AN Gupta. **Physical Chemistry Chemical Physics** 21 (36), 20083-20094 (2019)
53) Hollow nanostructures of metal oxides as efficient absorbers for electromagnetic interference shielding. V Sharma, K Manna, SK Srivastava, Amreesh Chandra **Journal of Physics D: Applied Physics** 52 (1), 015301 (2018).
54) Pressure induced anomalous magnetic behaviour in nanocrystalline $YCrO_3$ at room temperature. R Jana, V Pareek, P Khatua, P Saha, Amreesh Chandra, GD Mukherjee. **Journal of Physics: Condensed Matter** 30 (33), 335401 (2018)
55) Cerium-doped copper (II) oxide hollow nanostructures as efficient and tunable sensors for volatile organic compounds. I Singh, S Dey, S Santra, K Landfester, R Muñoz-Espí, Amreesh Chandra. **ACS Omega** 3 (5), 5029-5037 (2018)
56) High pressure studies on nanocrystalline $YCrO_3$. R Jana, Amreesh Chandra, GD Mukherjee. **AIP Conference Proceedings** 1953 (1), 030081 (2018)
57) Hollow nanostructures of metal oxides as next generation electrode materials for supercapacitors. V Sharma, I Singh, Amreesh Chandra. **Scientific Reports** 8 (1), 1-12 (2018)
58) Origin of superior catalytic activity in copper (II) oxide nanoflakes in comparison to solid or even hollow particles. V Sharma, I Singh, Amreesh Chandra. **Materials Letters** 211, 285-288 (2018)
59) Need for Revisiting the Use of Magnetic Oxides as Electrode Materials in Supercapacitors: Unequivocal Evidence of Significant Variation in Specific Capacitance under Variable Magnetic Field. V Sharma, S Biswas, Amreesh Chandra. **Advanced Energy Materials** 8, 1800573 (2018)
60) Understanding the Origin of Magnetic Field Dependent Specific Capacitance in Mn3O4 Nanoparticle Based Supercapacitors. P Haldar, S Biswas, V Sharma, Amreesh Chandra. **Journal of The Electrochemical Society**, 165 (14), A3230-A3239 (2018)
61) Use of an alternated cation–anion exchange membrane assembly for improved microbial fuel cell performance. J Khera, Amreesh Chandra. **Proceedings of the National Academy of Sciences, India Section A: Physical Sciences** (2017)
62) Trade-off between capacitance and cycling at elevated temperatures in redox additive aqueous electrolyte based high performance asymmetric supercapacitors. A Singh, MA Akhtar, Amreesh Chandra. **Electrochimica Acta** 229, 291-298 (2017)
63) Evolution of hollow nanostructures in hybrid $Ce_{1-x}Cu_xO_2$ under droplet confinement leading to synergetic effects on the physical properties. I Singh, K Landfester, R Muñoz-Espí, Amreesh Chandra. **Nanotechnology** 28 (7), 075601 (2017)
64) Enhancing specific energy and power in asymmetric supercapacitors-a synergetic strategy based on the use of redox additive electrolytes. A Singh, Amreesh Chandra. **Scientific Reports** 6 (1), 1-13 (2016).
65) Tuning Porous Structures of MnCo2O4 for Application in Supercapacitors and Catalysis. Md. A. Akhtar, V. Sharma, S. Biswas, and Amreesh Chandra. **RSC Advances** 6, 696296 -96305 (2016)
66) Enhancing Specific Energy and Power in Asymmetric Supercapacitors - A Synergetic Strategy based on the Use of Redox Additive Electrolytes. A. Singh and Amreesh Chandra. **Scientific Reports** 6, 25793-25804 (2016)
67) Significant Performance Enhancement in Asymmetric Supercapacitor based on Metal Oxides, Carbon nanotubes and Neutral Aqueous Electrolyte. A. Singh and Amreesh Chandra. **Scientific Reports** 5, 15551 (2015)

68) A new approach for crystallization of copper(II) oxide hollow nanostructures with superior catalytic and magnetic response. I.Singh, K. Landfester, R. Munoz Espi and Amreesh Chandra. **Nanoscale** 7, 19250-19258 (2015)
69) Use of the oxygen storage material CeO_2 as co-catalyst to improve the performance of microbial fuel cells. I. Singh and Amreesh Chandra. **International Journal of Hydrogen Energy** 41, 1913-1920 (2015)
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76. "Application of Graphene Quantum Dots in Supercapacitors – From Eletrode to Electrolyte", Debabrata Mandal and Amreesh Chandra, *International Meeting on Energy Storage Devices*, IIT Roorkee, INDIA-2018
77. "Combining redox additives with hollow nanostructures of metal oxides- a novel strategy for high performance supercapacitors", Vikas Sharma, Amreesh Chandra, *European Materials Research Society Spring Meeting, Strasbourg, France-2018*
78. "Porous and Hollow $NaFePO_4$ microspheres as efficient electrode material for Na-ion storage devices", Sudipta Biswas and Amreesh Chandra, *European Materials Research Society Spring Meeting, Strasbourg, France-2018*
79. "Improving the electrochemical performance of $NaMnPO_4$ by optimizing coating of polyaniline (PANi) for Na-ion supercapacitor", Ananya Chowdhury, Amreesh Chandra, *European Materials Research Society Spring Meeting, Strasbourg, France-2018*
80. "Facile low temperature synthesis of Cu_2O hollow nanospheres for application as anode material in supercapacitors", Vikas Sharma, Amreesh Chandra, *International Symposium on Functional Materials, Chandigarh, INDIA-2018*
81. "$FeVO_4$/PANi composite as anode material to achieve high performance supercapacitors", Sudipta Biswas, Amreesh Chandra *International Symposium on Functional Materials, Chandigarh, INDIA-2018*
82. "Synergistic Effect of Coating Mn_3O_4-polypyrrole Composite with Graphene to Bring Improvement in Supercapacitor Performance", Prasenjit Haldar and Amreesh Chandra, EMRS Spring, FRANCE- *2017.*
83. "Synthesis of ZrO_2-Polyaniline-Graphene composites with enhanced electrochemical characteristics", Prasenjit Haldar, Amreesh Chandra, *International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I), IIT Roorkee, INDIA-2017*
84. "Hierarchical-Porous V_2O_5 based strictures for use in high performance symmetric supercapacitors", Vikas Sharma, Amreesh Chandra, *International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I), IIT Roorkee, INDIA-2017*
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86. "Conducting polymer (PANi) directed enhancement in electrochemical performance of $NaMnPO_4$ for Na-ion supercapacitor", Ananya Chowdhury, Amreesh Chandra, *International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I), IIT Roorkee, INDIA-2017*
87. "Optical and electrochemical studies of Nitrogen doped graphene quantum dot", Debabrata Mandal, Amreesh Chandra, *International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I), IIT Roorkee, INDIA-2017*

88. "Morphology driven changes in electrochemical behavior of MnO_2 based nanostructures for supercapacitor applications", Sushanta Lenka, Vikas Sharma, Sudipta Biswas, Amreesh Chandra, *International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I), IIT Roorkee, INDIA-2017*
89. "Mn_3O_4-Polyaniline-Graphene as excellent composites for achieving high performance supercapacitors", Prasenjit Haldar, Amreesh Chandra, *National Conference on Solid State Ionics (NCSSI-12), BITS Pilani, INDIA-2017*
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91. "Porous and Hollow $NaFePO_4$ microspheres as high-performance cathode material for sodium- ion supercapacitors", Sudipta Biswas, Amreesh Chandra, *National Conference on Solid State Ionics (NCSSI-12), BITS Pilani, INDIA-2017*
92. "$NaMnPO_4$ as electrode material for Na-ion supercapacitor", Ananya Chowdhury, Amreesh Chandra, *National Conference on Solid State Ionics (NCSSI-12), BITS Pilani, INDIA-2017*
93. "Graphene coated $LiMn_2O_4$ electrode material for Li-ion supercapacitor", Debabrata Mandal, Amreesh Chandra, *National Conference on Solid State Ionics (NCSSI-12), BITS Pilani, INDIA-2017*
94. "VOC sensing properties of Ce^{3+} doped CuO hollow nanostructures – Significance for industrial applications", Inderjeet Singh, Sayan Dey, Sumita Santra, Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, INDIA-2017*
95. "Synergistic Effect of Coating Mn_3O_4-polypyrrole Composite with Graphene to Bring Significant Improvement in Supercapacitor Performance", Prasenjit Haldar , Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, INDIA- 2017*
96. "Facile low temperature synthesis of Cu_2O hollow nanospheres with potential application as negative supercapacitor electrode", Vikas Sharma, Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, INDIA*- 2017
97. "Optical Study of DNA Doped Graphene Quantum Dot for Ag^+ Ion Detection Application" Debabrata Mandal and Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, India- 2017*
98. "Surfactant and thiourea assisted synthesis of bud like microspheres of SnS and its application as supercapacitor", Sudipta Biswas and Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, INDIA- 2017*
99. "$NaMnPO_4$ as electrode material for Na-ion Supercapacitor", Ananya Chowdhury, Charu Lakshmi, Amreesh Chandra, *6th International Conference on Functional Electroceramics and Polymers, Kharagpur, INDIA- 2017*
100. "Copper (II) oxide hollow nanostructures by droplet templated crystalllization with superior catalytic and magnetic response", Inderjeet Singh, Amreesh Chandra, *Electrochemical Storage Systems: Synergy of Material Design and Modelling, Kharagpur, INDIA-2016*
101. "Room temperature synthesis of Mn_3O_4 nanoparticles by simple precipitation method and their use in supercapacitor", Prasenjit Haldar , Amreesh Chandra, *15th Asian Conference on Solid State Ionics (ACSSI-2016), IIT Patna INDIA- 2016.*
102. "CuO Nanoflakes with catalytic activity even higher than corresponding hollow or solid particles", Vikas Sharma, Inderjeet Singh , Amreesh Chandra, *MRS Fall meeting, Boston-USA, 2016*- Poster
103. "Tuning stable NiO nanoparticles without the use of capping agents: Understanding their higher catalytic, luminescence and capacitive responses", Vikas Sharma, Amreesh Chandra, *MRS Fall meeting, Boston-USA, 2016*

104. "High catalytic activity of CuO nanoflakes for energy applications", Vikas Sharma, Inderjeet Singh, Amreesh Chandra, *Electrochemical storage systems (ESS), IIT Kharagpur, INDIA- 2016*
105. "Highly luminecent graphene quantum dot for energy application" Debabrata Mandal , Amreesh Chandra, *Electrochemical storage systems (ESS), IIT Kharagpur, INDIA- 2016*
106. "Methylammonium lead iodide perovskite microrods for application in solar cell"**,** Ajit Suryawanshi, Sudipta Biswas, Ananya Chowdhury, Amreesh Chandra, *Electrochemical storage systems (ESS), IIT Kharagpur, INDIA- 2016*
107. "Multifunctional Metal Oxide Hollow Nanostructures in Inverse Miniemulsions by Controlling Reactions at the Droplet Interface", Inderjeet Singh, Katharina Landfester, Rafael Muñoz-Espí, Amreesh Chandra, *MRS Spring Meeting and Exhibit, San Francisco, USA- 2015*.
108. "Colossal catalytic activity in hollow CuO nanoparticles obtained under droplet confinement", Inderjeet Singh, Amreesh Chandra, *Indian Sceince Congress, Mumbai, INDIA- 2015*.
109. "Optimized MnO_2 Activated Carbon Cathode Catalysts For High Performance Microbial Fuel Cells", Inderjeet Singh, Amreesh Chandra, *10th National Conference on Solid State Ionics, Kharagpur, INDIA- 2013*.
110. "Ceria nanoparticles for application in alternative energy systems", Inderjeet Singh, Rafael Muñoz-Espí, Katharina Landfester, Amreesh Chandra, *6th India Singapore Joint Physics Symposium, Kharagpur, INDIA- 2013*.
111. "Application of activated carbon supported MnO_2 nanorods as a cathode material for achieving high power densities in microbial fuel cells", Inderjeet Singh, Amreesh Chandra, *Indian Science Congress, Kolkata, INDIA- 2013*.
112. "Application of PVDF as Conductive Electroactive Polymer Membranes in Microbial Fuel Cells", Inderjeet Singh, Rafael Muñoz-Espí, Amreesh Chandra, *5th International Conference on Electroactive Polymers, Varanasi, INDIA- 2012*.
113. "Shape and size controlled synthesis of ceria and its application in energy systems", Inderjeet Singh, Rafael Muñoz-Espí, Katharina Landfester, Amreesh Chandra, *E-MRS Fall Meeting, Warsaw, POLAND- 2012*.
114. "Application of Ceria Nanoparticles in Alternative Energy Systems", Inderjeet Singh, Amreesh Chandra, *International Conference on Theoretical and Applied Physics, Kharagpur, INDIA- 2011*.

Conferences/ workshops/ short-term courses organized and course development

Sr. No.	Name of the conference/ workshop organized at IIT Kharagpur	Position held	Year
1.	***1st International Conference on Supercapacitors and Batteries (SUPERBATS-2022)***	***Convener***	**Marc. 2022**
2.	***SPARC Workshop on Upscaling and field scale application of bio-electrochemical systems for wastewater treatment and bioenergy recovery***	***Co-convenor***	**Feb. 2020**
3.	***6th International Conference of Functional Electroceramics and Polymers (ICEP)***	***Convenor***	**Feb. 2017**
4.	***Joint Indo German Workshop on Electrochemical Storage Systems: Synergy of Materials Design and Modelling***	*Convenor*	**Feb. 2016**
5.	***International Conference on 21st Century Energy Needs - Materials, Systems and Applications***	***Member,*** *Organizing Committee*	**Dec. 2016**
6.	***Photonics***	***Member,*** *Organizing Committee*	**Dec. 2014**
7.	***6th National Conference on Solid State Ionics (NCSSI)***	*Convenor*	**Dec. 2013**
8.	***6th India-Singapore Joint Physics Symposium***	***Organizing Secretary***	**Feb. 2013**
9.	***International conference on Theoretical and Applied Physics (IC TAP)***	***Organizing Secretary***	**Dec. 2011**

Advisory Committee Member of Conferences/ Workshops

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Plenary/ Invited/ Oral Presentations