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Web of Science Researcher ID	P-5187-2017
Scopus ID	53867013700
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Educational qualification

- **B.E** (Metallurgy), Indira Gandhi Institute of Technology, Sarang, India, 2002.
  B.E Thesis: The effect of cold working and addition of zinc on the ageing characteristics of Al-10% Mg Alloy. **Advisor: Prof. S. Patnaik**
- **M. Tech.** (Metallurgy), Department of Metallurgical and Materials Engineering, BHU, UP, India, 2004.
  M. Tech. Thesis: Sono-electrochemical technique of refining of copper at higher current density. **Advisor: Prof. R. C. Gupta**
- **Ph.D**, Department of Metallurgical and Materials Engineering, National Institute of Technology, Rourkela, India, 2010.
  PhD Thesis: Effects of temperature and ultrasound on nucleation behavior during electrochemical synthesis of copper thin films. **Advisor: Prof. B. C. Ray**
- **Fulbright Post doctoral fellowship:** Passivity breakdown studies on CarElso 70 SOHIC carbon steel in chloride-containing borate buffer solutions. **Advisor: Prof. Digby D MacDonald**

Scholarships

- Government of India merit Scholarship.
- GATE Fellowship during M.Tech.
- Fulbright-Nehru postdoctoral fellowship

Professional Experience

- Project associate in Sterlite Industries Pvt. Ltd., Silvassa, 2003-2004.
- Lecturer in National Institute of Techonology, Rourkela, 2006-2008.
- Management trainee (technical) in Rourkela steel Plant (SAIL), 2008 (Oct)-2009 (Feb).
- Asst. Prof. in National Institute of Techonology, Rourkela, 2009- 2020.
- Associate Prof. in National Institute of Techonology, Rourkela, 2020- Cont.

Research Interest

- Electroplating, Sono-electroplating
- Corrosion of structural materials
- Thin film and Coating Technology
- Graphene synthesis
- Solar thin films
- Anti-corrosion coatings
- Graphene based nano-composites

Sponsored Research and technical Projects

Sl. No.	Grant agency	Title of the project and Reference number	Duration	Status	Amount in INR
1.	Dept. of Science and Technology, India	Analysis and manipulation of structures and properties of sono-electrochemically deposited nano-structured metallic thin films synthesized at low bath temperatures,	2012-2015	Completed	11,00,000
2.	Council of Scientific and Industrial Research, India	Prodding the Magnetic behavior of Sono-electroplated nano-structured Co/Cu and Ni/Cu magnetic alloy thin films by Scanning Probes	2013 - 2016	Completed	23,00,000
3.	Science and Engineering Research Board, India	Commercial synthesis of graphene and its exploration as an anti-corrosion coating on structural materials	2019-2022	Completed	28,00,000
4.	Science and Engineering Research Board, India	Synthesis and characterization of graphene reinforced nanocomposites by continuous melt processing technique	2022-2025	Ongoing	30,00,000

Industrial Projects

Sl. No.	Grant agency	Title of the project and Reference number	Duration	Status	Amount in INR
1.	RSP, SAIL, India	Study of corrosion of pipelines of mixed gas services	2019-2020	Completed	6,00,000
2.	TATA Steel, India	Designing and evaluation of novel hybrid MMC coating system for improved anti-corrosion and mechanical properties	2019-2020	Completed	19,50,000

Professional training and research experience

- Project associate in Sterlite Industries Pvt. Ltd., Silvassa, 2003-2004. Project undertaken: Sonoelectrochemical technique of refining of copper at higher current density.
- One week training at Mettler Toledo application center, Mumbai, 2007.
- Two weeks short term course on Vacuum Technology, at IIT Kharagpur, 2007.

Laboratory Developement

In the due process of research, we have been fortunate enough to develop a dedicated research laboratory and the details are:

Electrometallurgy and Corrosion Laboratory/Thin Film laboratory

Equipment facility		Year of purchase	Company
1	Potentistat/Galvanostat	2019	Corrtest, China
2	Potentistat/Galvanostat	2018	Corrtest, China
3	Ultrasonic processor	2008	Sonics and Materials Inc., USA
4	Stylus surface Profilometer	2010	Veeco, USA
5	Scanning Probe Microscope	2015	Bruker, USA
Scholars		**Ongoing**	**Completed**
1	B. Tech	3	21
2	M. Tech*/M. Tech (R)	2	19
3	PhD	5	3

Organization of conference/Short term courses/Workshop

- Research Scholar Week' 2015, 2016, 2017, NIT Rourkela.
- National Conference on Processing and Characterization of Materials' 2017, NIT Rourkela.
- 1st International Conference on Processing and Characterization of Materials'2018, NITRourkela.
- A short term course on "Corrosion and its Control and Characterization", July'2018, NIT Rourkela.
- A technical workshop on "Electroforming and Corrosion", October'2018, NIT Rourkela.
- 2nd Winter school on "Corrosion and its Control and Characterization", Dec'2019, NIT Rourkela.
- 3rd short term course on "Corrosion and its Control and Characterization", Dec'2022, NIT Rourkela.
- 3rd International Conference on Processing and Characterization of Materials, De'2021, NITRourkela.
- 4th short term course on "Corrosion and its Control and Characterization", Dec'2022, NIT Rourkela.

Patent:

1. Forced convection continuous caster for rod mills, **Indian Patent,** Application No. 395023-001, **Awarded,** 2023.
2. A laboratory-scale direct chill casting simulator for non-ferrous metals and alloys, **Indian Patent,** Application No. 202321014846, **Awarded,** 2023.
3. 3D Printing machine by using liquid state bottom-feeding technology, **Indian Patent,** Application No. 387594-001, **Awarded,** 2023
4. Low-degree electromagnetic twin roll casting machine, **Indian Patent,** Application No. 387595-001, **Communicated,** 2023

Publications

Books/Book chapters:

1. Archana Mallik and A. Basu, Metallurgy at National Institute of Technology – A Polished Ayas, Indian Metallurgy – The platinum Years, ISBN-13- 978-9819950591.
2. Siddhanta Sekhar Mishra, Subhendra Keshari Sahoo, Biswajit Biswal, Amlan Das, Archana Mallik, International Conference on Processing and Characterization of Materials, In-House Electrochemical Synthesis of Graphene and Its Exploration as an Anticorrosive Coating on Copper, ISBN - 978-981-99-5511-4, https://doi.org/10.1007/978-981-99-5509-1.
3. A. Srinivasanaik, Archana Mallik, (2019) Tractable Synthesis of Graphene Oxide by Electrochemical Exfoliation Method. In: Lakshminarayanan A., Idapalapati S., Vasudevan M. (eds) Advances in Materials and Metallurgy. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-13-1780-4_24

International Journals

1. A. Mallik, B. C. Ray, Morphological study of electrodeposited copper under the influence of ultrasound and low temperature, Thin Solid Films, 517 (2009) 6612.
2. A. Mallik, A. Bankoti, B, C, Ray, A Study on the Modification of Conventional Electrochemical Crystallization under Sonication: The Phenomena of Secondary Nucleation, Electrochemical and Solid State Letters, 12 (2009) F46.
3. A. Mallik, A. Das, Effect of plating parameters on the magnetic structure distribution in electrodeposited Co/Cu alloy films by Magnetic Force Microscope, Journal of advanced Microscopy Research, 5 (2010) 200.
4. A. Mallik, B. C. Ray, Evolution of principle and practice of electrodeposited thin film: A review on effect of temperature and sonication, International Journal of Electrochemistry, Volume 2011 (2011), Article ID 568023.
5. A. Mallik, B. C. Ray, Residual stress and nano-mechanical properties of sono-electrodeposited Cu films, Surface Engineering, 27 (2011) 551.
6. A. Mallik and B. C. Ray, An analysis of the temperature-induced supersaturation effects on structure and properties of sono-electrodeposited copper thin films, Surface and Coating Technology, 206 (2011) 1947.
7. A. Das, Archana Mallik and B. C. Ray, Analysis of effect of Ultrasound on the magnetic topography of electroplated Ni films by Magnetic Force Microscopy (MFM), Metallurgical and Materials Transactions B, 43B (2012) 267-275.
8. A. Mallik, Sono-electrochemical Synthesis and Characterization of Ultra-fine grained Copper Powders at Sub-ambient Temperature, Microscopy and Analysis 25 (2011) 15.
9. Archana Mallik and S. Rout, An understanding of the non-isothermal grain growth behavior of sono-electroplated Cu thin film, Journal of Institution of Engineers (India): Series D 97 (2013) 7.
10. Archana Mallik, Micro-Stream Jetting Effect of Acoustic Cavitation during Sono-Electroplating of Thin Films: A Morphological Note, Journal of Surface and Hybrid Coating Technology, 2 (2015) 1.
11. Archana Mallik, A. K. S. Bankoti, B. C. Ray, On the effects of bath composition and ultrasound on the structure and properties of Cu thin films, Russian Journal of Electrochemistry, 49 (2013) 146.
12. Archana Mallik, Implications of low temperature and sonication on the electrocrystallization mechanism: A kinetics and structural correlation, Transactions of Indian Institute of Metals, 66 (2013) 79.
13. Archana Mallik and B. C. Ray, An analysis on the Cu electrocrystallization mechanism: Effect of temperature, Materials Research 16 (2013) 539.
14. M. Moharana and Archana Mallik, Nickel electrocrystallization in different electrolytes: An in–process and post synthesis analysis, Electrochimica Acta 98 (2013) 1.
15. Sumanta K Sahoo and Archana Mallik, Simple, fast and cost-effective electrochemical synthesis of few layer graphene nanosheets, Nano 10 (2015) 1550019.
16. Ramkumar Chandra, Rajneesh Pandey and Archana Mallik, One step electrodeposition of CuInSe2 thin film from an acidic bath: A reduction co-deposition potential study, Materials Letters, 160 (2015) 275.
17. Sumanta Kumar Sahoo and Archana Mallik, Synthesis and characterization of conductive few layered graphene nanosheets using an anionic electrochemical intercalation and exfoliation technique, Journal of Materials Chemistry C 3 (2015)10870.

18. Sumanta Kumar Sahoo, Satyajit Ratha, Chandra Sekhar Rout and Archana Mallik, Physicochemical properties and supercapacitor behavior of electrochemically synthesized few layered graphene nanosheets, Journal of Solid State Electrochemistry 20 (2016) 3415.
19. Prekshya Nath, Deepak Sahu and Archana Mallik, Physicochemical and corrosion properties of sono-electrodeposited Cu-Ni thin films, Surface and Coating Technology 307 (2016) 772.
20. Rajneesh Pandey, Prekshya Nath, Arpita Das, Archana Mallik, Effect of deposition potential and copper concentration on the phase transformation mechanism and structural distribution during electrodeposition of Ni/Cu magnetic alloy thin films, Kovove Materialy-Metallic Materials 55 (2017) 1.
21. Sumanta Kumar Sahoo, B. C. Ray and Archana Mallik, Role of electrochemically in-house synthesized and functionalized graphene nano-fillers on the structural performance of epoxy matrix composites, Physical Chemistry Chemical Physics 19 (2017) 16219.
22. Ramkumar Chandra and Archana Mallik, Technological advancements in Electrodeposition of CIGSe absorber layer for solar cell devices: A short review report, Journal Materials for Renewable and Sustainable Energy (2018) 7:6.
23. A. K. Behera and Archana Mallik, Ultrasound assisted electroplating of nano-composite thin film of Cu matrix with electrochemically in-house synthesized few layer graphene nano-sheets as reinforcement, Journal of Alloys and Compounds 750 (2018) 587.
24. Ramkumar Chandran and Archana Mallik, Facile, seedless and surfactant-free synthesis of ZnO nanostructures by wet chemical bath method and their characterization, Applied Nanoscience 8(2018)1823
25. Soon Min Ho, Mandati Sreekanth, Chandran Ramkumar, Archana Mallik, Bhuiyan Mohammad Arif Sobhan, KG Deepa, Preparation of CuInSe2 Thin Films by using Various Methods (A Short Review), Oriental Journal of Chemistry 39(2019)1
26. Sumanta Kumar Sahoo and Archana Mallik, Fundamentals of fascinating graphene nanosheets: A comprehensive study, Nano 14(2019) 1930003.
27. Ramkuamr C, A. Behera, Archana Mallik, A novel CISe/Ga-Se two-step stack approach to electrodeposit photovoltaic quality Cu-poor CuInGaSe2 thin films, Materials Letters 252 (2019) 244–247.
28. Ramkuamr C, A. Behera, Archana Mallik, An attempt to co-deposit photovoltaic quality CuINSe2 thin films: Effect of surfactant and deposition potential, Journal of Materials Science: Electronic Materials 30 (2019) 15460.
29. Ramkuamr C, A. Behera, Archana Mallik, Composition tuning of single step electrodeposited CuInSe2 thin films using SDS as additive, Journal of Electronic Materials 48 (2019) 8129.
30. A. Behera, Ramkumar C, Smarajit Sarkar, Archana Mallik, An exploration on the use of in-house synthesized reduced few layer graphene nano-sheets as a reinforcement during sono-electroplating of Cu matrix nano-composite, Journal of Alloys and Compounds 817 (2020) 152713.
31. Azmeera Srinivasanaik, Amlan Das and Archana Mallik, Anionic electrochemical exfoliation of few-layer graphene nano-sheets: An emphasis on characterization, Materials Science Forum 978 (2020) 399.
32. Akhaya Behera and Archana Mallik, An investigation on anti-corrosion properties of electroplated copper-graphene nano-composite films, Materials Science Forum 978 (2020)499.
33. S. K. Sahoo, A. Behera, Ramkuar C, Archana Mallik, Industrial Scale Synthesis of few-layer graphene nano-sheets – An exploration on electrochemical exfoliation approach Journal of Applied electrochemistry 50 (2020) 673.
34. A. K. Behera, Alok Patel, Rajat Mehta, Smarajit Sarkar, Sanjeev Das and Archana Mallik,

Exploration of in-house synthesized and functionalized graphene as reinforcement in Cu-matrix for improved mechanical and anticorrosion properties, Diamond and Related Materials 109(2020) 108009.

35. Prasenjit Biswas, Amrik Kundu, Hiren R. Kotadia, Archana Mallik, Sanjeev Das, Design and manufacturing of a novel continuous casting technique for the addition of ceramic particulate reinforcement, alloying elements and grain refiners in Al-system, CIRP Journal of Manufacturing Science and Technology 31 (2020) 342.
36. A. K. Behera, Ramkumar C, Sanjeev Das and Archana Mallik, Wear performance and nano-mechanical behaviour of sono-electroplated Cu-graphene nano-composite thin films, Journal of Materials Engineering and Performance 30 (2021) 1398.
37. A. K. Behera, A. Das, S. Das and Archana Mallik, Electrochemically functionalized graphene as an anti-corrosion reinforcement in Cu matrix composite thin films, International Journal of Minerals, Metallurgy and Materials 28(2021)1525.
38. Arjun Kundu, Deepak Patel , Prasenjit Biswas , Shikhar Ranjan , Archana Mallik, Sanjeev Das, Design of electromagnetic TP-1 test equipment to study the change in aluminium macrostructure under external Field, Transactions of Indian Institute of Metals 74(2021)1819.
39. Deepak Patel, Amrik Kundu, Arjun Kundu, Prasenjit Biswas, Hiren R. Kotadia, Archana Mallik and Sanjeev Das, In-house design of forced convection direct chill casting simulator for casting immiscible Al-Sn alloy, International Journal of Cast Metals Research 34(2021)135.
40. Deepak Patel, Sanjeev Das, Prasenjit Biswas, Anil Kumar, Hiren R. Kotadia, Archana Mallik, On the Prediction of Grain Refinement Mechanism in Direct Chill Casting of Aluminum and its Alloys Under Low Degree Mechanical Forced Convection, Metals and Materials International 28(2022)1741.
41. Prasenjit Biswas, Santosh Mishra, Mrinal Sahu, Archana Mallik, Sanjeev Das, Simulation based optimization of geometrical factors and process parameters for a continuous caster to fabricate aluminium based MMC, International Journal of Metal casting 16(2022)1758.
42. Arjun Kundu, Prasenjeet Biswas, Archana Mallik and Sanjeev Das, Electromagnetic twin roll casting of Aluminium alloys sheet -An overview, JOM 74(2022)4876.
43. Amlan Das, Deepak Sahu, Sanjeev Das and Archana Mallik, Electrophorsed graphene coatings for corrosion prevention: A review, Nano 17(2022)2230004.
44. Priti Singh, Sanjeev Das and Archana Mallik, A detailed investigation on the phase transformation mechanism during electroplating of Cu (In, Ga) Se2 films on FTO-glass substrates, Solar Energy 246(2022)189.
45. P. Biswas, D. Patel, Archana Mallik, Sanjeev Das, Concept development, design, and validation of a novel continuous casting equipment, World Journal of Engineering, doi.org/10.1108/WJE-09-2022-0378.
46. Deepak Patel, Arjun Kundu, Prasenjit Biswas, Archana Mallik and Sanjeev Das, Synthesis of Al-Sn alloys by direct chill casting under the effect of mechanical stirring: An experimental and simulation optimization study, International Journal of Materials Research 114(2023)377.
47. Prasenjit Biswas, Santosh Mishra, Mrinal Sahu, Archana Mallik and Sanjeev Das Production and characterization of Al- Cu Binary Alloy produced by using Novel Continuous Casting Process, International Journal of Materials Research 114(2023)368.
48. Priti Singh, Ramkumar C, Sanjeev Das and Archana Mallik, Surfactant assisted single step electrodeposition of CuInSe2 thin films with rich Indium selenide surface over layer International Journal of Materials Research114(2023)284.
49. Prasenjit Biswas, Deepak Patel, Amrik Kundu, Shashank Poddar, Arjun Kundu, Archana

Mallik, Sanjeev Das, Production and characterization of Al–Cu binary alloy produced by using novel continuous casting process, International Journal of Materials Research, 114 (2023) 368-377.

50. Amlan Das, Deepak Kumar Sahu, Sanjeev Das, Archana Mallik, Enhancement of corrosion resistance by electrophoresed graphene obtained through ionic solution based electrochemical exfoliation, Diamond and Related Materials, 137 (2023) 110101.
51. Arjun Kundu, Prasenjit Biswas, Mrinal Sahu, Deepak Patel, Archana Mallik, Sanjeev Das, Effect of Electromagnetic Flow Direction on Grain Refinement of Al 2024 Alloy, Journal of the minerals, metals, and materials society JOM (TMS), 75 (2023) 2799-2817.
52. Bhavyan Sahayata, Sattwik Kumar Mahanta, Pundrikaksha Upadhyay, Rajath R Mendon, Anindya Basu, Sanjeev Das, Archana Mallik, An approach to improve corrosion resistance in electro-galvanized Zn-Al composite coating by induced passivity, Materials Letters, 351 (2023) 135013.
53. P. Upadhyay, A. Nag, A Banerjee, Sanjeev Das, A. Mallik, A comparative study of pulse and DC electroplating of Zn onto mild steel for improved corrosion resistance, Transactions of Indian Institute of Metals, doi.org/10.1007/s12666-023-03108-8, (2023).
54. Arjun Kundu, Prasenjit Biswas, Deepak Patel, Jagadish Nayak, Rupesh Kumar Verma, Archana Mallik, Sanjeev Das, Effect of low degree electromagnetic field on solidification mechanism and mechanical properties of twin roll cast Al 7075 alloy, Journal of the minerals, metals, and materials society JOM (TMS), doi.org/10.1007/s11837-023-06173-y, 2023.
55. Sudeshna Parida, Sanjeev Das and Archana Mallik, Application of electrochemical impedance spectroscopy (EIS) to study the effect of temperature and ion concentration during electroplating of copper from an acidic bath, Transactions of Indian Institute of Metals 77(2023)1433.
56. Deepak Kumar Sahu, Amlan Das, Sanjeev Das, Archana Mallik, Synthesis and development of highly adhesive graphene coating to improve the corrosion resistance of Zn in aggressive environment, Carbon Letters, 34(2024)247.
57. Priti Singh, Sourav Mohanty, Sudeshna Parida, Sanjeev Das, Archana Mallik, An electrochemical impedance study to analyse the phase transformation pattern and stability during electro-crystallization of CIGS photo-voltaic thin films, Solar Energy, 268(2024)112307.
58. Prasenjit Biswas, Deepak Patel, Archana Mallik, Sanjeev Das, Concept development, design and validation of a novel continuous casting equipment, World Journal of Engineering, 21(2024)398.
59. Rajath R. Mendon, Pundrikaksha Upadhyay, Deepak Ku. Sahu, Bhavyan Sahayata, Sanjeev Das, Archana Mallik, Electrochemical investigation of electrophoretically deposited graphene-oxide coating on AZ31 alloy prepared using in-house synthesized few-layer graphene-oxide nanosheets, FlatChem, 45(2024)100667.
60. Prasenjit Biswas, Jagadish Nayak, Arjun Kundu, Deepak Patel, Archana Mallik, Sanjeev Das, A review on the development of processing techniques for the production and casting of Al-alloy and metal matrix composite material, Iranian Journal of Science and Technology, Transactions of Mechanical Engineering, https://doi.org/10.1007/s40997-024-00773-y
61. Sudeshna Parida and Archana Mallik, An experimental investigation by electrochemical impedance spectroscopy for the study of mechanism of copper electrodeposition from an acidic bath, International Journal of Materials Research (Accepted).

62. Amlan Das, Deepak Sahu, Sanjeev Das and Archana Mallik, Development of electrophoresed anti-corrosion coating for copper from functionalized multi layered graphene nano-sheets synthesized through anionic acidic electrochemical exfoliation, Diamond And Related Materials, https://doi.org/10.1016/j.diamond.2024.111256.

Selected National & International conferences/ Symposia:

1. A. Das, A. K. Behera and **Archana Mallik**, An exploration on anti-corrosion performance of electrochemically synthesized graphene coating on commercially pure copper, Materials Today Proceedings (Accepted) https://doi.org/10.1016/j.matpr.2020.03.026.
2. P. Singh and Archana Mallik, Photo-electrochemical performance of CIS and CIGS solar thin films arranged through a novel CISe/Ga-Se bilayer electrodeposition, Materials Today Proceedings (Accepted), https://doi.org/10.1016/j.matpr.2022.05.597
3. S. Parida, S. Das and Archana Mallik, An experimental study of copper electroplating by electrochemical impedance spectroscopy (EIS) at room temperature, Materials Today Proceedings (Accepted), https://doi.org/10.1016/j.matpr.2022.05.596
4. R. K. Swain, P. Upadhaya, a. Nag, A. Banerjee. A. N. Bhagat, A. Basu and Archana Mallik, Electro-galvanization of zinc and zinc-nickel onto mild steel for improved corrosion resistance, Materials Today Proceedings (Accepted), https://doi.org/10.1016/j.matpr.2022.05.520
5. Amlan Das, Ramkumar Chandran and ArchanaMallik, Decoration of graphene sheets with silver nanoparticles and their characterization, Materials Today Proceedings (Accepted), https://doi.org/10.1016/j.matpr.2022.05.521
6. P. Upadhaya, A. Basu and Archana Mallik, Electroplating of Zn at different current densities onto mild steel for improved corrosion resistance, Materials Today Proceedings (Accepted).
7. D. Singh. A. Das and **Archana Mallik**, Corrosion behavior of electrophoretic deposited copper on graphene, Materials Today Proceedings 15 (2019) A1.
8. Ramkumar Chandran, C. K. Behera and **Archana Mallik**, Electrochemical Impedance (EIS) behavior of CuInSe2 (CIS) thin films on high resistance ITO/PET flexible substrates, **Materials Today Proceedings** 4 (2017) 12473.
9. Ramkumar Chandra and **Archana Mallik**, Electrodeposition of near stoichiometric CuInSe2 thin films for photovoltaic applications, **IOP Conference Series: Materials Science and Engineering**, 338 (2018) 012018.
10. D. Singh, Amlan Das and **Archana Mallik**, Electrophoretic Deposition of Graphene on Copper and its corrosion behavior, FCCM-2018, 28 – 29 June, 2018, NIT Warangal.
11. Azmeera Srinivasanaik, **Archana Mallik**, Tractable Synthesis of Graphene Oxide (GO) by Electrochemical Exfoliation Method, ICEMMM-2018, 15-16 February 2018, SSN College of Engineering, Chennai.
12. A. Behera and **Archana Mallik**, Sono-electroplting of Copper-Graphene nano-composite thin films for electrofriction applications, NCSCSTASE-2018, 23-25 January 2018, NAL Bengaluru.
13. A. Behera and **Archana Mallik,** Effect of ultrasound and graphene composition on the physicochemical propoerties of electroplated Cu-few layer graphene nano-composites**,** ATM, NMD, IIM, 2017.
14. Sumanta Kumar Sahoo, Duleshwar Singh and **A. Mallik,** Synthesis and characterization of few layer graphene nanosheets by electrochemical exfoliation techniques in aqueous nitric acid solution, ATM, NMD, IIM, 2015.
15. P. Nath, D. K. Sahu and **A. Mallik**, Electrodeposition of Cu-Ni alloy thin films: An effect of

sonication and temperature, ATM, NMD, IIM, 2015.

16. S. K. Sahoo, C. K. Behera and **A. Mallik**, Electrochemical synthesis and characterization of few layer graphene nanosheets, ICDCM, Bad Homburg, Germany, Septemeber 2015.
17. R. Chandran, R. Pandey and A. Mallik, One•Step electrodeposition assisted CIS/CIGS thin films, 13th International Fischer Symposium, Germany, 2015.
18. P. Nath and **A. Mallik**, Effect of current density on sono-electroplating of Cu-Ni alloy thin films, International Conference on Frontier Science and Technology, Berhampur, Odisha, 2015.
19. Sumanta Sahoo and **A. Mallik**, A comparison of physicochemical properties of electrochemically synthesized few layer graphene nanosheets International Conference on Frontier Science and Technology, Berhampur, Odisha, 2015.
20. **A. Mallik,** Pin Lu, Shamin and D. D. Macdonald, Passivity breakdown studies on CarElso 70 SOHIC carbon steel in chloride-containing borate buffer solutions, ATM, NMD, IIM, 2014.
21. **A. Mallik** and S. K. Rout, An understanding of the non-isothermal grain growth behavior of sono-electroplated Cu thin film, ATM, NMD, IIM, 2011.
22. A. Das, **A. Mallik**, B. C. Ray, Residual Stress and Microstrutural Variation in Sono-electrodeposited Copper Thin Films: The Role of Temperature, ATM, NMD, IIM, 2011.
23. Sumanta Kumar Sahoo, B.Sundaravel, A.Marikani, **A. Mallik**, Fabrication of functionalised silicon nanowires for electrochemical detection of protein molecules, ATM, NMD, IIM, 2011.
24. Sumanta Kumar Sahoo, K. Jeyasubramanian, A. Mallik, Synthesis and characterisation of magnetic colloid nanoparticles : Ferrofluid, RINT, KIIT University, 2011.
25. A. Das, **A. Mallik** and B. C. Ray, Magnetic characterization of Ni-Cu alloy thin film by Magnetic force microscope (MFM): Effect of plating parameter, ICAMMP 2011, IIT Kharagpur.
26. **A. Mallik** and B. C. Ray, An analysis of the temperature-induced supersaturation effects on structure and properties of sono-electrodeposited copper thin films, ICMCTF 2011, **USA**.
27. **A. Mallik**, Implications of bath composition and ultrasound on the structure and properties of Cu thin films (Abstract only), 9th International Symposium on Advancement in Electrochemical Science and Technology, 2-4 December, Hotel Green Park, 2010.
28. **A. Mallik,** B. C. Ray, 2nd WSEAS International conference on Nannotechnology (Nanotechnology'10), 20- 22 February 2010, **University of Cambridge**, **UK,** pp 108-112.
29. A. Das, **A. Mallik** and B. C. Ray, International Conference on Recent Trends in Materials and Characterization (RETMAC -2010) February 14 – 15, 2010, National Institute of Technology, Suratkal, Karnataka.
30. S. Rout, **A. Mallik** and B. C. Ray, International Conference on Recent Trends in Materials and Characterization (RETMAC -2010) February 14 – 15, 2010, National Institute of Technology, Suratkal, Karnataka.
31. **A. Mallik,** B. C. Ray, International Workshop on Physics of Semiconductor Devices (IWPSD 2009), 15-19th December 2009, New Delhi.
32. **A. Mallik,** B. C. Ray, 4th Asian Advanced Particle Technology, New Delhi, 14-16 September 2009.
33. **A. Mallik,** B.C. Ray, Rakesh K Sahoo, S Sahoo, 10th Conference of International Academy of Physical Sciences CONIAPS-X, January 12-14 2008, Guru Ghasidas University, Bilaspur, India.
34. **A. Mallik,** B.C. Ray, Rakesh K Sahoo, S Sahoo, 10th Conference of International Academy of Physical Sciences CONIAPS-X, January 12-14 2008, Guru Ghasidas University, Bilaspur, India.
35. **A. Mallik**, R.N. Chauhan & B.C. Ray, International Conference on Advanced Materials and

Composites (ICAMC-2007), NIIST, Trivendrum, 24-26 October 2007.

Professional recognition and achievements

- Best oral paper award in National Symposium for Materials Scholars and Workshop on Advanced Characterization Techniques, 6-8 May, IIT Mumbai, 2010.
- Best paper award in poster session in 9th International Symposium on Advancement in Electrochemical Science and Technology, 2-4 December, Hotel Green Park, 2010.
- Delivered several invited talks at premier institutes i.e. IGIT, Sarang, VNIT Nagpur, NIT Warangal, India.
- Odisha Young Scientist award, Engineering Science category, 2011.
- Best PhD thesis award, Materials Research Society of India, 2011 (Nominated)
- Regular reviewer of
  - ❖ Synthetic Metals, FlatChem, Journal of Materials Engineering and Performance, Philosophical magazine and philosophical magazine letters, Construction and building materials, Nano, Physical Chemistry Chemical Physics, Materials Letters, Nanoscale, Thin Solid Films, Surface and Coatings Technology, Applied Surface Science, Journal of Alloys and Compounds, Electrochimica Acta, Metallurgical and Materials Transactions A, Metallurgical and Materials Transactions B, CrystEngComm, Nanotechnology, Science and Applications.
- Summer Research Fellowship, Indian Academy of Sciences, 2012.
- FULLBRIGHT-Nehru post-doctoral research fellowship, 2013-2014, University of California, Berkeley.

- Editorial board member, Journal of Advanced Research in Manufacturing and Material Science and Technology (ADR publications, India), Journal of Surface and Hybrid Coating Technology (STM journals, India)
- Regular PhD thesis evaluation in the areas of Electrodeposition, Electrophoretic deposition, Graphene, Corrosion, Metal Extraction.

Courses taught and labs handled at UG and PG level

- Corrosion and degradation of materials
- Non-ferrous metal extraction: Principles and Applications
- Nano-structured materials
- Metallurgical Thermodynamics and Kinetics
- Mineral dressing
- Steel making
- Structure and properties of materials
- Transport phenomena
- Advances in materials science and engineering
- Advanced materials
- Electrodeposition and corrosion (Laboratory)
- Polymer and composite (Laboratory)
- Mineral dressing (Laboratory)
- Research project – II
- Seminar and technical writing

Membership of professional bodies

- Indian Institute of Metals (IIM, Kolkata) - Life member (46361)
- World Scientific and Engineering Academy and Society (WSEAS) – Member.
- Materials Research Society of India (MRSI) – Life member (LMB-1891)
- Society for Advances in Electrochemical science and Technology (SAEST) – Life fellow member (LF-696)
- International Society of Electrochemistry (ISE) - Member
- Odisha Bigyan Academy - Life Member (466)
- Institute of Engineers - Corporate Member (M-151746-5)
- Electron Microscopy Society of India – Life member (LM 1473)
- The Minerals, Metals and Materials Society – Associate Member (548048)