CV

1. **Name :** **Dr. Mahendra Yadav**
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5. **Research Area : Electrochemistry, Hydrogen Energy, Corrosion Science**
6. **Number of Ph.D. Guided :** **22**
7. **Number of M. Sc. Project Guided :** **50**
8. **Number of M. Phil. Guided :** **05**
9. **Best researcher award by IIT (ISM) Dhanbad**
10. **Number of R & D Project completed:** **07**
11. **Number of EDP courses conducted:** **08**
12. **Number of Research publications in reputed journals: 81**

LIST OF PUBLICATIONS

1. Arti Maurya, Vrinda TR, **Mahendra Yadav*** Multiwall carbon nanotubes supported rhenium doped Co3O4 as an efficient electrocatalyst for water oxidation in alkaline medium. Journal of Alloys and Compounds 996 (2024) 174751. **Impact Factor = 6.37 (Q1)**

2. Arti Maurya, **Mahendra Yadav*.** Sphere shaped Mo-doped transition metal oxide as electrocatalyst for oxygen evolution reaction in alkaline medium. Journal of Alloys and Compounds 956 (2023) 170208. **Impact Factor = 6.37 (Q1)**

3. Arti Maurya, Nidhi Pradhan, Kumari Kasher, **Mahendra Yadav*** Marigold flower like B - Fe3S4 /Co3S4 decorated with multi-wall carbon nanotubes for Oxygen evolution in the alkaline media. Journal of Environmental Chemical Engineering, 12 (2024) 114709 .

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4. Arti Maurya, Nidhi Pradhan, **Mahendra Yadav*** Heteroatom doped MoO3 efficiency towards Hydrogen Evolution Reaction (HER) in acidic as well as alkaline medium. Journal of Electroanalytical Chemistry, 977 (2025) 118827. **Impact Factor = 4.6 (Q1)**

5. Tarun Kanti Sarkar, **Mahendra Yadav*,** I.B. Obot b, Mechanistic evaluation of adsorption and corrosion inhibition capabilities of novel indoline compounds for oil well/tubing steel in 15% HCl, Chemical Engineering Journal 431 (2022) 133481.
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6. V Saraswat, TK Sarkar, M Yadav, Evaluation on corrosion mitigation capabilities of nitrogen doped carbon dots as corrosion inhibitors for mild steel in descaling solution, Materials Chemistry and Physics 313 (2024) 128678. **Q1 Impact factor = 4.78**

7. R.K. Mehta, S. K. Gupta, **M. Yadav**, Studies on pyrimidine derivative as green corrosion inhibitor in acidic environment: Electrochemical and computational approach, Journal of Environmental Chemical Engineering 10 (2022) 108499.
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Q1 Impact factor = 6.63

10. **Sujata Kumari Gupta**, R. K. Mehta, M. Yadav, O. Dagdag, V. Mehmeti, A. Berisha, E. E. Ebenso, Diazenyl derivatives as efficient corrosion inhibitors for mild steel in HCl medium: Gravimetric, electrochemical and computational approach, *Journal of Molecular Liquids*, 382 (2023) 121976. **Q1 Impact factor = 6.63**

11. R. K. Mehta, **Sujata Kumari Gupta**, M. Yadav, Synthesized novel carbon dots as green corrosion inhibitor for mild steel in hydrochloric acid: Gravimetric, electrochemical and

morphological studies, Diamond & Related Materials, 136 (2023) 109992. **Q1 Impact factor = 4.1**

12. **Sujata Kumari Gupta**, R. K. Mitra, M. Yadav, O. Dagdag, A. Berisha, E. E. Ebenso,Electrochemical, surface morphological, and computational evaluation on carbohydrazide Schiff bases as corrosion inhibitor for mild steel in acidic medium, *Scientific Reports*,13 (2023) 15108. **Q1 Impact factor = 4.6**
13. **Sujata Kumari Gupta**, R. K. Mehta, N. Kumari, I. B Obot, M. Yadav, Study on benzylidine derivatives as corrosion inhibitors for mild steel in 15% HCl medium: Experimental & theoretical investigation, *Journal of Physics and Chemistry of Solids*, 183 (2023) 111632. . **Q1 Impact factor = 4.38**
14. RK Mehta, M Yadav, Corrosion inhibition properties of expired Broclear medicine and its carbon dot as eco-friendly inhibitors for mild steel in 15% HCl, Materials Science and Engineering: B 295 (2023), 116566. **Q1 Impact factor = 3.6**
15. B Kumari, RK Tiwary, M Yadav, Effect of poly-aniline coated iron ore mining waste (PANI@ IOMW) as efficient adsorbent on mitigation of Cr (VI) from aqueous solution: Experimental and statistical investigation, Chemical Engineering Research and Design 190 (2023) 434-450. **Q1 Impact factor = 3.9**
16. A. Maurya, K. C. Majhi, M. Yadav, Template-directed shape control synthesis of rare earth sulfide for oxygen evolution reaction, Journal of Physics and Chemistry of Solids 170 (2022) 110891. **Q1 Impact factor = 4.38**
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18. Kartick Chandra Majhi, **Mahendra Yadav**, Neodymium oxide doped neodymium phosphate as efficient electrocatalyst towards hydrogen evolution reaction in acidic medium. Journal of Environmental Chemical Engineering, 2022, 10, 107416.

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20. Priya Kumari Paul, Raj Kumar Mehta, **Mahendra Yadav**, I.B. Obot, Theoretical, electrochemical and computational inspection for anti-corrosion activity of triazepine derivatives on mild steel in HCl medium. Journal of Molecular Liquids 348 (2022) 118075. **Q1 Impact factor = 6.63**
21. Binu Kumari , R.K. Tiwary , M. Yadav * Non linear regression analysis and response surface modeling for Cr (VI) removal from aqueous solution using poly-aniline coated sugarcane bagasse (PANI@SB) composites as an adsorbent, Surfaces and Interfaces 29 (2022) 101729. **Q1 Impact factor = 6.14**
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23. Vandana Saraswat, Rinki Kumari, **Mahendra Yadav*** Novel carbon dots as efficient green corrosion inhibitor for mild steel in HCl solution: Electrochemical, gravimetric and XPS studies *Journal of Physics and Chemistry of Solids* 160 (2022) 110341 **Impact Factor = 4.38 (Q2).**
24. Kartick Chandra Majhi and **Mahendra Yadav***Sphere-Shaped Bimetallic Sulphoselenide: An Efficient Electrocatalyst for Hydrogen Evolution Reaction. *Energy & Fuels* 2021, 35, 15, 12473-12481. **Impact Factor = 4.65 (Q2).**
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26. Priya Kumari Paul, **Mahendra Yadav*,** Ime Obot, Potential of dibenzo-18-crown-6 derivatives as corrosion inhibitor on mild steel in HCl medium: Electrochemical and Computational approach. ***New J. Chem.***, 2021, (Accepted) doi.org/10.1039/D1NJ00869B.**Impact Factor = 3.93 (Q2)**

27. Kartick Chandra Majhi , **Mahendra Yadav*,**Palladium Oxide Decorated Transition Metal Nitride as Efficient Electrocatalyst for Hydrogen Evolution Reaction. Journal of Alloys and Compounds 855 (2021) 157511. **Impact Factor = 6.37 (Q1)**
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30. Priya Kumari Paul, **Mahendra Yadav*,** Investigation on corrosion inhibition and adsorption mechanism of triazine-thiourea derivatives at mild steel / HCl solution interface: Electrochemical, XPS, DFT and Monte Carlo simulation approach. Journal of Electroanalytical Chemistry 877 (2020) 114599.doi.org/10.1016/j.jelechem.2020.114599 **Impact Factor = 4.60 (Q1)**
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33. Vandana Saraswat, **MahendraYadav***, Carbon Dots as Green Corrosion Inhibitor for Mild Steel in HCl Solution. *ChemistrySelect* 2020, *5*, 7347–7357. **Impact Factor = 2.31 (Q3)**
34. Vandana Saraswata, **Mahendra Yadav***, I.B. Obot, Investigations on eco-friendly corrosion inhibitors for mild steel in acid environment: Electrochemical, DFT and Monte Carlo Simulation approach, *Colloids and Surfaces A 599 (2020) 124881*.**Impact Factor = 5.52 (Q2)**

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38. Nilam Kumari, Priya Kumari Paul, Laldeep Gope, **Mahendra Yadav***, Studies on anticorrosive action of synthesized indolines on mild steel in 15% HCl solution. *Journal of Adhesion Science and Technology***2017**, 31(14), 1524-1544. **Impact Factor = 2.08 (Q3)**
39. **M. Yadav***, T. K. Sarkar, I. B. Obot,Carbohydrate compounds as green corrosion inhibitor: Electrochemical, XPS, DFT and molecular dynamics simulation studies. ***RSC Advances*** **2016**, 6, 110056–110069. **SCI Impact Factor = 4.04 (Q2)**
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41. **M. Yadav***, S. Kumar, Taniya Purkait, I. Bahadur, E.E. Ebenso, Electrochemical, thermodynamic and quantum chemical studies of synthesized benzimidazole derivatives as corrosion inhibitors for N80 steel in hydrochloric acid. *Journal of Molecular Liquids. **2016,***213, 122-138.**Q1 Impact factor = 6.63**
42. **Mahendra Yadav***, Laldeep Gope, Tarun Kanti Sarkar, Synthesized amino acid compounds as eco-friendly corrosion inhibitors for mild steel in hydrochloric acid solution: electrochemical and quantum studies. Res Chem Intermed, **2016**, 42, 2641-2660. **SCI Impact Factor = 3.13 (Q3)**

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44. **M. Yadav***, R. R. Sinha, Sumit Kumar, T. K. Sarkar, Corrosion inhibition effect of spiropyrimidinethiones on mild steel in 15% HCl solution: insight from electrochemical and quantum studies. *RSC Adv.*,**2015**, 5, 70832–70848. **SCI Impact Factor = 4.04 (Q2)**
45. **Mahendra Yadav*,** Tarun Kanti Sarkar, Taniya Purkait, Amino acid compounds as eco-friendly corrosion inhibitor for N80 steel in HCl solution: Electrochemical and theoretical approach. *Journal of Molecular Liquids.* **2015**, 212, 731-738.**Q1 Impact factor = 6.63**
46. **M. Yadav***, T. K. Sarkar, Taniya Purkait, Studies on Adsorption and Corrosion Inhibitive Properties of Indoline Compounds on N80 Steel in Hydrochloric Acid. *Journal of Materials Engineering and Performance,***2015**, 24, 4975-4984. **SCI Impact Factor = 2.04 (Q3)**
47. **M. Yadav***, S. Kumar, N. Tiwari, I. Bahadur, E.E. Ebenso, Experimental and quantum chemical studies of synthesized triazine derivatives as an efficient corrosion inhibitor for N80 steel in acidic medium, *Journal of Molecular Liquids,***2015**, 212 151–167.**Q1 Impact factor = 6.63**
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and DFT studies. *Journal of Molecular Liquids.* **2015**, 212, 451-460.**Q1 Impact factor = 6.63**

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54. **Mahendra Yadav***, Dipti Sharma, and Sumit Kumar, Azetidine Derivatives as Efficient Corrosion Inhibitorfor N80 Steel in Hydrochloric Acid Solution. *Protection of Metals and Physical Chemistry of Surfaces,* **2015**, 51, 680–692.**SCI Impact Factor = 0.99 (Q3)**
55. **Mahendra Yadav***, Dipti Sharma, and Sumit Kumar, Thiazole derivatives as efficient corrosion inhibitor for oil-well tubular steel in hydrochloric acid solution, *Korean J. Chem. Eng.*, **2015**, 32(5), 993-1000. **SCI Impact Factor = 3.15 (Q2)**
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Benzothiazole Derivatives on Mild Steel in 15% HCl Solution.*Int. J. Electrochem. Sci.*, 10 **2015,**602 – 624. **SCIImpact Factor = 1.57 (Q4)**

61. **Mahendra Yadav*,** Sushil Kumar, Debasis Behera, Indra Bahadur, Deresh Ramjugernath, Electrochemical and Quantum Chemical Studies on Adsorption and Corrosion Inhibition Performance of Quinoline -Thiazole Derivatives on Mild Steel in Hydrochloric Acid Solution**.***Int. J. Electrochem. Sci*. **2014**, 9, 5235-5237**.SCI Impact Factor = 1.57 (Q4)**
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copper in aqueous chloride solution. *Indian Journal of Chemical Technology*. **2003**, **10** , 414-419. **SCI Impact Factor = 0.48 (Q4)**

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