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Development of Alloy and composite based coating for corrosion protection and water electrolysis

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RESEARCH EXPERIENCE

- (1) **IAS Sponsored** project entitled "Synthesis and characterization of MBH adducts of bis(4-formylphenyl)amine", Organic Laboratory, **C.L.R.I., Chennai (CSIR lab)** (summer research-2014).
- (2) **VGST Bangalore Sponsored** project entitled "Preparation of Chitosan based biodegradable polymers", Dept. of Chemistry MGM College, Udipi (2012-2013).

RESEARCH PUBLICATION

1. **Akshatha R Shetty** and A. Chitharanjan Hegde (2016) "Ultrasound induced co-deposition of Ni-Co alloy for better corrosion protection." *International Journal of Innovative Research and Development.*, 5(1), 207-211.
2. **Akshatha R Shetty** and A. Chitharanjan Hegde(2017) "Study on the Effect of Current Density on Electrocatalytic Behavior of Ni-Co Alloy." *International Journal of Chemical Engineering and Processing.*, 3(1), 9-23.
3. **Akshatha R Shetty** and A. Chitharanjan Hegde (2017). "Electrofabrication of Ni-Co-CNT composite coatings for hydrogen energy." *Nanohybrids and composites.*, 17,149-155.
4. **Akshatha R Shetty** and A. Chitharanjan Hegde (2017). "Development of multilayer Ni-Co alloy coatings by pulsed sonoelectrodeposition for better corrosion protection." *International Journal of advanced chemical science and Applications*,5(1),9-15.
5. **Akshatha R Shetty** and A. Chitharanjan Hegde (2017). "Ultrasound induced multilayer Ni-Co alloy coatings for better corrosion protection." *Surf. Coat. Technol.*,322,99-107.
6. **Akshatha R Shetty** and A. Chitharanjan Hegde.(2018). "Effect of TiO₂ on electrocatalytic behavior of Ni-Mo alloy coating for hydrogen energy." *Materials Science for Energy Technologies*, 1(2), 97-105.
7. **Akshatha R Shetty** and A. Chitharanjan Hegde (2018). "Electrodeposition of Ni-Mo alloy coatings for water splitting reaction. In *AIP Conference Proceedings* (Vol. 1943, No. 1, p. 020108). AIP Publishing.
8. C Shamitha, **Akshatha R Shetty**, Ampar Chitharanjan Hegde and Srinivasan Anandhan(2019). "Sol-gel electrospun ZnMn₂O₄ nanofibers as bifunctional electrocatalysts for hydrogen and oxygen evolution reactions." *Mater. Res. Express* ,doi:10.1088/2053-1591/ab51aa

9. B. Sachin Kumar, Kartick Tarafder, **Akshatha R Shetty**, A. Chitharanjan Hegde, Visweswara C. Gudla, Rajan Ambat, Sreeram K. Kalpathy and S. Anandhan(2019). "Polymorph nickel titanate nanofibers as bifunctional electrocatalysts towards hydrogen and oxygen evolution reactions." *Dalton Trans.*,48, 12684-12698.
10. **Akshatha R Shetty** and A. Chitharanjan Hegde(2020) "Magneto-electrodeposition of Ni-Mo-Cd alloy coating for improved corrosion resistance." *chem.Data.Collect.*,100639.
11. **Akshatha R Shetty** and A. Chitharanjan Hegde (2022). "Development of Ni-Co-CNT composite coatings for corrosion protection of mild steel in 5% NaCl". *Chemical Data Collections*, 100953.

AWARDS AND ACHIEVEMENTS

1. Won "**Rula Research Ratna Awards 2019**" as a **Best Researcher in Electrocatalysis**" awarded by Rula awards and powered by World research Council at Trichy, Tamilnadu.
2. **Best poster award in ICETCS-2017**, International conference on Emerging Trends in Chemical Sciences, held at MIT, Manipal. September 14-16, 2017.
3. Won **Institute Medal and Prof. G. H. Kulkarni Gold Medal-2015**, in Master of Science of science at NITK, Surathkal.