

Academic Profile



DR.A.MATHIAZHAGAN

Designation: Professor

Date of Joining at CUSAT: 22-09-1994

Professional Experience:

26 years of Professional experience

Contact Details:

Dept of Ship Technology

Cochin University, Kochi-22

Pin Code -682022

(Ph:Office+91-0484-575714

(Mob.+91- 9400336441 +91-9944663919

Email: alagan@cusat.ac.in / _amathi1969@gmail.com

Academic Background:

M.Sc., Applied Science-Anna University, Chennai-25

M.E., Metallurgical Engg (Materials Science as specialization)-NIT, Trichy (Formerly REC-Trichy)

Ph.D in Technology (Materials Technology-Interdisciplinary)-Cochin University-Kochi-22.

Areas of Interest:

Materials Technology, Corrosion Engineering, Welding Technology, Polymer Nanocomposite

Invited talks delivered in conference, seminar and short term courses:

1. Delivered a Talk on Corrosion control Methods in the short Term Training Programme on Modern Materials and Methods in Engineering, SOE, Cochin University of Science and Technology, Kochi-22, Kerala, 3rd , May 2011.
2. Delivered a Talk on Corrosion of Structures and in the short Term Training Programme on Advanced Engineering Materials and Their Application, SOE, Cochin University of Science and Technology, Kochi-22, Kerala, 23, January, 2013.
3. Delivered a Talk on Surface Treatments for Metal Protection on Advancements in National Workshop on Metal Forming, Anna University, Coimbatore, Tamil Nadu, 9, April, 2014. 2011.
4. Delivered a Talk on Prevention and Control of Corrosion of Marine Installations in the National Seminar on Corrosion of Marine Installations, Intuition of Engineers(India), Kochi Chapter, SOE ,Cochin University of Science and Technology, Kochi-22, Kerala, 22, February, 2014.
5. Delivered a Talk on Recent Developments in Materials for Future in the International Conference on Current Innovations in Engineering and Technology, IAETSD, Hotel Nahar Manchester Inn, Coimbatore, 29, March, 2015.
6. Delivered a Talk on Innovations in Materials Technology in the International Conference on Current Innovations in Engineering and Technology, RVS College of Engineering/IAETSD, Coimbatore, 27, December, 2015.
7. Delivered a Talk on Sustainable Materials Technology in the International Conference on Current Innovations in Engineering and Technology, National college of Engg, IAETSD, Tirunelveli, 31 January, 2016.
8. Delivered a Talk on Corrosion Protection for Marine Structures in the International Maritime Seminar on Marine Pollution and Environment(IMS'16), KM School of Marine Engineering, CUSAT, Kochi-22, Kerala, 4, August, 2016.
9. Delivered a Talk on Corrosion Health Monitoring of Concrete Structure in the short Term Training Programme on Health Monitoring of RCC/Concrete Structure , College of Engg, Trivandrum , Kerala, 26, November, 2016.
10. Delivered a Talk on Corrosion Health Monitoring of Concrete Structure in the short Term Training Programme on Health Monitoring of RCC/Concrete Structure , TKM College of Engg, Kollam , Kerala, 25, February, 2017.
11. Delivered a Talk on Bio-inspired materials for construction Industry in the short Term Training Programme on Technological Advancements in Materials for Construction Industry, TKM College of Engg, Kollam , Kerala, 13, January, 2018.

Significant Projects:

Development and modeling of Cathodic protection system for ship under UGC grant -two years
Consultancy: Failure Analysis of boilers components and infrastructures

Supervision of Ph.D:

- ▮ PhD degree awarded - 6
- ▮ PhD On-going - 4
- ▮ M.Tech students supervision: 13

Professional accomplishments:

1. Acted as one of the coordinators of the conferences and seminar organized in the Department of ship Technology, CUSAT-22.
2. Department placement coordinator for students (NA/SB)
3. Organized one day workshop on Marine corrosion and its control under DST Purse scheme on 24th-March 2012 at CUSAT, Kochi.
4. Member of World Academy of Science, Engineering and Technology.
5. Participated in Common admission test for B.Tech admission
6. Faculty Advisor for Society of Naval Architect Students
7. Member, Board of Studies (NA/SB) in CUSAT.
8. Functioned as Member in various Enquiry Committees on Students' Problems in CUSAT campus.
9. Member, Executive Council, PTA, DOST, CUSAT, 2012-13.
10. Organized An International Maritime Technical Conference-MAST, on 6th August-2016 at CUSAT
11. Attended seventeen short term training programmes/workshops in my area of interest.
12. Innovations in teaching: Teaching by ICT-Moodle Platform
13. Edited book on Marine corrosion and its prevention published (ISBN: 978- 93-80095-93-0) under

14. Member of Board of Examiners for PhD Thesis for Anna University, Chennai, M.S University, Tirunelveli. Pondicherry University
15. Acted as one of the coordinators of seminar on Inland Waterways-Prospects and Problems organized in the Department of ship Technology, CUSAT-22, 04 March-2017.
16. Conducted academic audit for the Department of Naval Architecture and Ocean Engineering at AMET University, Chennai
17. External member of Patent Committee for evaluation of Invention at Kerala University, Trivandrum.
18. Coordinator of Setting of Electrochemical Lab
19. Presently Holding the position of Head of the Department, Department of Ship Technology
20. Member of Bureau of Indian Standards for Ship Building Selection Committee
21. Academic council Member, Board of Studies (NA/SB) in CUSAT.
22. Chairman, Board of studies,(NA/SB) in CUSAT.
23. Chairman of Conference Session in various National and International Conferences

List of Publications in Journals:

1. **Mathiazhagan**, A., "Marine fouling on submerged Structure", Journal of Ships Technic, Vol XIII, pp 75-78, Jan (1997).
2. **Mathiazhagan**, A., "Cathodic protection for corrosion control of ships and other offshore structure in seawater", Journal of Ships Technic, Vol. XIV, pp. 85-89 (1998).
3. **Mathiazhagan**, A., "Thermal spray coating for repair of ship propeller", Journal of Ships Technic, Vol-xx, pp. 101-110 (2004).
4. **Mathiazhagan**, A., "Mathematical Modeling of Cathodic Protection for Ship Hull ", Journal of Ship Technology, Vol.4, No.1, pp.56-60, Jan (2008).
5. **Mathiazhagan**, A., Rani Joseph, Narayanan, K.P., "Corrosion Behaviour of brass in Vembanad Estuary", Journal of Marine Science and Technology, Vol. 18, No. 5, pp. 719-722 (2010) .
6. **Mathiazhagan**, A., Rani Joseph, Narayanan, K.P., "Dezincification of brass in Cochin Estuary, India", Journal of Ship Technology, Vol.6, No.1, pp.36-48, (2010)
7. **Mathiazhagan**, A., Rani Joseph, Narayanan, K.P., "Dezincification of Epoxy coated brass in Cochin Estuary, India", International Journal of Chemical Engineering and application, Vol.6, No.1, pp.36-

48,(2010)

8. **Mathiazhagan**, A., Rani Joseph, “Nanotechnology –New Prospective in polymer coating –Review” International Journal of Chemical Engineering and Applications, Vol. 2 , No. 4 , August (2011)

9. **Mathiazhagan**, A.,– Design and Programming of Cathodic Protection for Ships”, International Journal of Chemical Engineering and Applications, Vol. 1, No. 3, October (2010)

10. Satheesh Babu P.K, Dr A **Mathiazhagan**, Dr C.G. Nandakumar, Corrosion Health Monitoring System for Steel Ship Structures, International Journal of Environmental Science and Development, Vol. 5, No. 5, October (2014).

11.Satheesh Babu P.K, Dr A **Mathiazhagan**, Integrated Corrosion Protection System for Ship Structures, International Journal of Design and Manufacturing Technology, pp.29-34,Vol. 5, Issue No. 3, December, (2014)

12. Neena George , **A.Mathiazhagan**, Julie Chandra C.S., Rani Joseph, “High performance natural rubber composites with conductive segregated network of multiwalled carbon nanotubes”, Journal of Composite Science and Technology,pp.33-40,Vol.116,8, (2015).

13. Sindhu Radhakrishnan¹, **A.Mathiazhagan** and G. Annadurai, “*Achyranthes Aspera*: A Potent Immunostimulating Plant for Herbal Formulation and Management of Wounds”, European Journal of Biomedical AND Pharmaceutical sciences, Vol. 2 Issue. 4, pp 730-742, (2015)

15. J.Uthaya Chandirika¹, P.Seetha Lakshmi, **A.Mathiazhagan**, G. Annadurai, ”Design and Development of Chitosan Nanoparticle in Target Novel Drug Delivery Systems for Urolithiasis”, European Journal of Biomedical and Pharmaceutical sciences, Vol. 2 Issue. 4, pp. 528-537, (2015)

16. M. Revathy, **A.Mathiazhagan** and G. Annadurai, Biosynthesis, Characterization and Antibacterial Activity of Silver Nanoparticles using the Lichen Parmotrema Perlatum, European Journal of Biomedical and Pharmaceutical sciences, Vol. 2 Issue. 4, pp. 348-361 (2015).

17. Neena George, **A. Mathiazhagan** and Rani Joseph “Natural rubber nanocomposites based on multiwalled carbon nanotube/nanosilica hybrid’. *Plastics and Rubber Srilanka* 15,20-23,(2016).

18. Neena George , Bipinbal P. K., Bhavya Bhadran, **A.Mathiazhagan**, Rani Joseph, Segregated network formation of multiwalled carbon nanotubes in natural rubber through surfactant assisted latex compounding: A novel technique for multifunctional properties , Journal of Polymer , 264-277,112 (2017)

19. Dhanya Vijayan., **A. Mathiazhagan**, and Rani Joseph, “ Aluminium trihydroxide: Novel reinforcing filler in Polychloroprene rubber” Journal of Polymer 132 , 143-156 (2017)

20. Neena George, B. Venugopal , Honey John, **A. Mathiazhagan**, Rani Joseph, Nanosilica decorated multiwalled carbon nanotubes (CS hybrids) in natural rubber latex, Journal of Polymer 161 170–180(2019)

21. Neena George, Honey John, **A. Mathiazhagan**, and Rani Joseph, "Dielectric property enhancement by nanosilica decorated multiwalled carbon nanotubes in natural rubber". *Composites Science and Technology (Under review)*
22. Krishnaprasad.s, **A.Mathiazhagan**, Krishnadas P.S "Effect of manual and automatic Activated Tungsten Inert Gas welding using single component fluxes on stainless steel AISI-304" in the Journal of Ship Production and Design(SNAME) ,pp 1-9 (2019).
23. Binsu Sukumaran , Dr. Nubesh Khan , Dr. Moataz M Barakat , Rebecca Ann Abraham , Dr. K. Chandrasekharan Nair , **Dr. A. Mathiazhagan** "Effects of dental implant corrosion- A Review", European Journal of Molecular & Clinical Medicine, ISSN 2515-8260, Volume 07, Issue 07, 2020.
24. S., Krishna Prasad, **Mathiazhagan, A.** Underwater Welding: A Review Paper. Indian Welding Journal . Vol. 54 Issue 1, p56-63. 8p. Jan (2021).
25. Elias George., **A.Mathaizhagan**, Evaluation of Reaction Kinetics and Properties of Epoxy Resin with Two Hardeners, International Journal of Science and Research, Vol. 10,Issue 5, pp. 256-261,May 2021.
26. Elias George., , Bhagyesh V Bhaskaran, **A.Mathaizhagan**, Modification of Epoxy coatings by conducting polymers for improved corrosion protection of Mild Steel, International Journal of Recent Research and Applied Studies, Volume 8, Issue 4(20),pp.122-126, April (2021).
27. Bhagyesh V Bhaskaran., Rani Joshep, **A.Mathaizhagan**, Elias George., Unsaturated polyester resin reinforced reduced graphene oxide composite for anti-corrosive applications, International Journal of Research and Analytical Reviews, Volume 6, Issue 2, pp.829-836, April (2019).
28. Elias George., **A.Mathaizhagan**, Evaluation of Reaction Kinetics and Properties of Epoxy Resin with Two Hardeners, International Journal of Science and Research, Vol. 10,Issue 5, pp. 256-261,May (2021).
29. Elias George., , Bhagyesh V Bhaskaran, **A.Mathaizhagan**, Modification of Epoxy coatings by conducting polymers for improved corrosion protection of Mild Steel, International Journal of Recent Research and Applied Studies, Volume 8, Issue 4(20),pp.122-126, April (2021).

List of Publications in Conferences:

1. **Mathiazhagan, A.**, Somasundara Nair, E.M., "Glass reinforced plastics for marine application and maintenance", National Symposium, J-1, Southern Naval Command, Kochi, 20th Jan (1995).
2. **Mathiazhagan, A.**, Sivaprasad, K., "Condition monitoring of ships hull for corrosion", National Congress on corrosion control, NCCI&CECRI, Kochi, pp.6.1- 69, Sep 9- 11(1998).

3. **Mathiazhagan**, A., Sunil Kumar, P.G., "Thermal spray coating for repair of shafts" National Congress on corrosion control, Sep-20-22, NCCI/CECRI, vizak (2004)
4. **Mathiazhagan**, A., Rani Joseph, "Zinc powder filled coatings for corrosion protection", International Conference on advances in polymer Technology (APT-08), pp.86, CUSAT, Kochi, Kerala, India (2008)
5. **Mathiazhagan**, A., Rani Joseph, Narayanan, K.P., "Biofouling and Corrosion of brass in Cochin Estuary", National Congress on corrosion assessment and its control, Dec -21-22, NCCI/CECRI, karaikudi and TCE, Madurai (2009)
6. **Mathiazhagan,A.**, "Corrosion Management for Effective Mitigation of Corrosion in Ships – Overview" International conference on Management Technology and Applications held at Singapore, Sep-10-12, IACSIT, Singapore (2010).
7. **Mathiazhagan,A.**, "Corrosion Control" ISTE-Short Term Training Programme on Modern Materials and Methods in Engg, 02-12,May,CUSAT-Kochi-22(2011).
8. Bhagyesh V B, Rani Joseph, **A. Mathiazhagan** "Anticorrosive coating performance of reduced graphene oxide - Polyester nano composite" **National Conference on Material Science & Technology**, Department of Chemistry, Indian Institute of Science and Technology,Thiruvanthapuram-695547,kerala, July 6-8, 2013.
- 9.**Mathiazhagan**, P.K. Satheesh Babu, "New Horizon in ship safety and reliability-corrosion management approach",3rd Asian Symposium on Materials and Processing,30-31,August , IIT Chennai,India (2012).
10. Bhagyesh V Bhaskaran¹, **Mathiazhagan**. A, Rani Joseph, Synthesis of reduced graphene oxide: An effective corrosion inhibiting coating, Proceedings of International Conference on Advances in Materials, Manufacturing and Applications (AMMA 2015), NIT Trichy, April 9-11, (2015).
11. Neena George , **A.Mathiazhagan**, Rani Joseph, "Reinforcement of Natural Rubber with Multiwalled Carbon nanotube/Nanosilica hybrid filler, Seminar on Advanced Functional Materials,15-16-Sep, Mar Athanasius College, Kothamangalam,Kerala,India (2015).
- 12.**A.Mathiazhagan**, Impact of chemicals in antifouling paints on the life of Marine organisms, International Conference on Recent Advances in Engineering Science and Management,30th August, New Delhi,(2015).
13. **A.Mathiazhagan**, Marine Corrosion and Its Management, International Conference on Science,Technology and Management,27th Sep, New Delhi,(2015)
14. Sajitha N. R ., Kurup M. R. P, **Mathiazhagan A.** "Synthesis, Characterization and Corrosion Inhibition of 4-benzyloxy salicylaldehyde-N(4)-methylthiosemicarbazone" International Conference on Materials for the Millennium-MATCON-2016 during January 14th-16th,Cochin University of Science and Technology(2016).

15. Bhagyesh V. B., Rani J., **Mathiazhagan A.** Anti-Corrosion Performance of Graphene Reinforced-Polyester Composite, International Conference on Materials for the Millennium-MATCON-2016 during January 14th-16th, Cochin University of Science and Technology(2016).
16. Dennyamol.P.Y., **Mathiazhagan.A.**,Rani Joseph, Enhanced Properties of Egg Shell Derived Nanohydroxyapatite Reinforced High Density polyethylene Composites, International conference on Advances in Mathematics, Materials Science, and Nano Technology for Engineering and Industrial Application, at Federal Institute of Science and Technology, Angamaly January, 7-9, (2016).
17. Bhagyesh V B, Rani Joseph, **A. Mathiazhagan** "Ethylene diamine reduced graphene oxide: Preparation and Anticorrosion effect on polyester resin". International Conference on Advance in Polymer Technology [APT-16]. Department of Polymer Science & Rubber Technology, CUSAT, Kochi-22, February 25-26, 2016.
18. Dennyamol.P.Y., **Mathiazhagan.A.**,Rani Joseph, Mechanical and Thermal Properties of High Density Polyethylene-Exfoliated Graphite Composites, UGC Sponsored National Seminar Proceeding"Modern Trends in Chemistry at Sree Kerala VARMA College, Trichur, Kerala , 7-9,(2016).
19. Dhanya Vijayan., **Mathiazhagan, A.**, Rani Joseph, "Effects of Nano Aluminium Hydroxide in Fluorocarbon Rubber Composites", International Conference on advances in polymer Technology Feb.25-26, 2016 (APT-2016) CUSAT, Kochi, Kerala, India (2016).
20. Dhanya Vijayan., **Mathiazhagan, A.**, Rani Joseph, " Mechanical and Thermal studies of Nitrile Rubber/Aluminium Hydroxide Nanocomposites", International Symposium on New Trends in Applied Chemistry, Feb.09-11, 2017 (NTAC-2017) , Sared Heart College, Thevara, Kochi, Kerala, India (2017).
21. Bhagyesh V B, Rani Joseph, **A. Mathiazhagan** "Reduced graphene oxide decorated with halloysite nanotube hybrid composite preparation and its application", 26th Swedeshi Science Congress. Swedeshi Science Movement, Kerala ,kochi18,November 7-9, (2016).
22. Dhanya Vijayan., **Mathiazhagan, A.**, Rani Joseph, " Use of Aluminium Hydroxide as Reinforced Filler in Viton", India Rubber Industry Forum 2016, Dec.05-06, 2016, at Capitol Hotel, Bangalore , India (2017).
23. Dhanya Vijayan., **Mathiazhagan, A.**, Rani Joseph, " Preparation and Comparison of Fluorocarbon Rubber Composites based on Aluminium Hydroxide and Medium Thermal Black", International Conference on Advanced Materials(SCICON-2016), Dec.19-21, 2016, Amrita Vishwa Vidyapeetham, Combatore , India (2016).
24. Dhanya Vijayan., **Mathiazhagan, A.**, Rani Joseph, " Sorption and Dynamic Studies of Viton/Aluminium Hydroxide Nanocomposites, 26th Swadeshi Science Cogress-National Seminar, Nov 07-09, 2016, Amrita Vishwa Vidyapeetham, Swedish Science Movement, Kerala Unit of Vijnana Bharathi, Kochi, Kerala, India (2017).
25. Sinai Michel, S. Packialakshmi, **A. Mathiazhagan**, Rajesh.P.Nair, "Assessment of corrosion in steel under marine environment" International Conference on Energy ,Environment, Materials and Safety(ICEEMS), 25-27, April, School of Engg, CUSAT, Kochi-22, Kerala, 2019.

26. Sinai Michel, S. Packialakshmi, **A. Mathiyazhagan**, Rajesh.P.Nair, “Assessment of Effect of Marine Corrosion on Impact Energy of Mild Steel Using Experimental Method and Finite Element Method” INCAM 2019 Conference, 3-5 July, IISc Bangalore, (2019).

27. Elias George., **A.Mathaizhagan**, Modification of Epoxy Resin using Nano Materials for improved Corrosion Resistance, NACE Conference-CORCON 23-26, ,Mumbai,India (2019).

28. P Jyothimol, R Hazeena, Manoj T Issac and **A Mathiazhagan**, “Effect of reduced graphene oxide on the mechanical properties of concrete”, IOP Conf. Series: Earth and Environmental Science : 5th International Conference on Modelling and Simulation in Civil Engineering, 1-8 ,491 (2020).

29. Vysakh Kadayath Bijukumar, Andy Mathiazhagan, Pallichakkalayil Sasidharan Krishnaprasad, “A Review on Activated Tungsten Inert Gas Welding Technique” National Seminar on Welding Science and Technology -NSWEST-2021, Organised by IIM, Chennai Chapter, 23-24 July (2021)

Membership in Professional institutes: Member in IACSIT, SPT

Any other information: Editor of IJET, IJCEA,

Date: 08-07-2021

(Dr. A.MATHIAZHAGAN)