

BIO-DATA



Personal details:

Full Name (including Surname) : **Dr. A. MATHIAZHAGAN**
Date and Place of Birth : 22/05/1969, Trichy (TN)
Sex : Male
Marital Status : Married
Nationality and Religion : Indian,Hindu
Official Address : Associate Professor,
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Academic Qualifications:

M.Sc (Applied Science)-Anna University, Chennai
M.E (Materials Science)-NIT(Formerly REC-Trichy)
Ph.D (Materials Technology)-CochinUniversity-Kochi.

Professional / Employment details:

University/Institute	Designation	Period
Cochin University of Science and Technology	Lecturer	1994 -1999
	Senior Lecturer	1999-2004
	Reader	2004 -2007
	Associate Professor	2007- 2016

Area of specializations: Materials Science, Sustainable Engineering, Welding Technology, Polymer, Corrosion Engineering, Nanocomposite.

I. TEACHING PLAN

Modern engineered materials play a central role in enabling technological designs that underpin, advance and revolutionize engineering practice. Today's products and their constituent components and structures have to meet increasingly stringent requirements during operation. The economic and human costs of failure during service impose a great deal of responsibility on organizations and individuals who select and integrate materials in a final engineering design. A critical feature of successful product development is the judicious selection of the best materials based on all information about materials.

My teaching interest includes Materials Engineering, Surface Engineering, Nano materials, novel metallic alloys, ceramics, polymers, composites and bio-materials systems.

My motto for teaching the above subjects are:

- To promote active interactions among, students, researchers and others engaged in basic or applied research, technology development and applications.
- To encourage wide ranging applications of such research output in all areas of vital interest to human society
- To provide a professional advice in major issues related to materials as their economic exploitation, long term conservation, new developments.

- To teach modern materials will serve as a stimulus to researchers, scientists and technologists for further research in these areas.

II. RESEARCH PLAN:

In order to create the basic science and engineering in the twenty-first century, it is necessary to study the materials of various kinds and their new functionality in combination with physics and chemistry. Testing and analysis of materials is the integral part of any kind of research in modern world, thus providing a validation for many complex problems. Research and development in the field of materials have become an interdisciplinary activity, necessitating synergy among materials scientists, engineers and technologists. Hence, integration of various area of research is a successful approach to solve any research problem. Development and advancement of Human societies closely related with materials. Understanding of the relationship among structure, properties, processing, and performance of materials is an intelligent way of designing new materials. Advanced materials and processing methods have become essential to the enhancement of the quality of life, safety, industrial and economic growth. As more and more materials are developed by exploiting our mother nature-earth, we tend to face a crisis in future. Nature has splendid materials which can be as strong as the most advanced laboratory-produced materials.

I have academic and administrative experience with potential to carry out creative research in my chosen areas. I have managerial and communicative skills with adequate computer knowledge. I have strong interpersonal and executive skill to handle research projects in my area of research. I have established strong relationship between the universities and other industries and R &D. My contribution to student's community received recognition as they possess excellence and creativity in their profession. I have completed Short Term Research Training Programmes at IIT Chennai and NIT, Trichy where I had been exposed to different types of instruments used in research field such as SEM, XRD, THERMAL ANALYSER, FTIR, AAS, EDS and ELECTROCHEMICAL ANALYSES, GAS CHROMATOGRAPH, MASS SPECTROMETER, CHN ANALYSER and so on. I also learned the above instruments and other methods used in materials and chemical analysis by attending a National workshop on "Advanced Techniques for corrosion studies" conducted by NCCI/CECRI, Karikudi, and also in a training programme on "Modern Materials and Methods in Engineering" organized by Cochin University of Science and

Technology. I have conducted materials testing lab for students apart from the regular teaching work. I have experience in guiding Ph.D and M.Tech students.

Hence, my ambition is to design and develop novel materials and investigate the properties of such materials so as to have environmental sustainability by integrating the different areas of materials engineering. I would also use the advanced techniques mentioned above for analysis and characterization of different materials for finding solutions to various problems.

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. 1, No. 2, August(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 Noparticles using the Lichen Parmotrema Perlatum, European Journal of Biomedical and Pharmaceutical sciences, Vol. 2 Issue. 4, pp. 348-361 (2015)

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.**Mathazhagan.A**, “Corrosion Control” ISTE-Short Term Training Programme on Modern Materials and Methods in Engg, 02-12,May,CUSAT-Kochi-22(2011).
- 8.**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).

9. 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), April 9-11, (2015).

10. Neena George , **A.Mathiazhagan**, Rani Joseph, “Reinforcement of Natural Rubber with Multiwalled Carbon nanotube/Nanosilica hybrid filler, Seminar on Advanced Functional Materials, Sep Mar Athanasius College, Kothamangalam, Kerala, India (2015).

11. 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).

12. 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).

13. 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.

14. 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.

Teaching Experience:

1. Total No. of years: 21 Years of teaching for B.Tech Students

- i) Materials Technology classes for M.Tech (part time)-2years
 - ii) Marine corrosion and Protection for M.TECH(Full Time)-1Year
2. Innovations in teaching: Teaching by ICT-Moodle Platform
 3. Syllabus developed: Marine corrosion & materials Technology
 4. Edited book on Marine corrosion and its prevention published (ISBN: 978-93-80095-93-0) under Directorate of Public relation and Publication, CUSAT, Kochi.
 - 5) Five invited talks are delivered in seminar and short term courses

Research Guidance:

1. M.Tech Project-Mr.Kannan P.K.,, “Thermal Analysis of Single Point Cutting Tool and Tool Deformation using FEM” 2013.
2. M.Tech Project-Mr.Sreejith N., “ Modelling and Analysis of Orthogonal Cutting of steel using FEM”-2013.
3. PhD- One Research Scholar awarded PhD (Name :Preetha Nair K.,”Studies on the use of Nanokaolin, MWCNT and Graphene in NBR and SBR) and two Scholars submitted their thesis.
-Research Scholar Name: Abhilash., Preparation of Low protein Latex: Effects of different cure systems and fillers on its properties-Thesis submitted.
4. PhD –Research work of eight students are under progress.
5. Minor research project completed-Development and modeling of Cathodic protection system for ship under UGC grant -two years

Membership in Professional institutes: Member in IACSIT, SPT

Any other information: Editor of IJET, IJCEA

Leadership quality:

1. Acted as one of the coordinators of the conferences and seminar organized in the Department of ship Technology, CUSAT-22.
2. Acted as one of the placement coordinator for students
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. Advisor for Society of Naval Architect Students

Short Term course attended

Programme	Place where the summer/winter schools were conducted	Title of the course	Period of attendance	Total number of days
1.Short term training	Advanced training institute,Madras	Non Destructive testing of Metals	22-05-95 to 02-06-95	12 days
2.Winter School	AICTE&IIT ,Kharagpur	Cryogenic Engg&Its application	30-12-96 to03-01-97	5days
3.Short term course	AICTE&CUSAT	Advances in polymer processing& manufacture	02-06-97 to13-06-97	12 days
4.Winter School	AICTE/ISTE&PMCT,Thanjavur	Institute Industry Linkage	17-11-97 to22-11-97	5days
5.Short term course	AICTE/IIT,Mumbai	Corrosion Control	24-05-99 to29-05-99	6 days
6. Short term course	Industrial Pollution Control	AICTE/ISTE&NSS Engg College	16-03-99 to28-03-99	13 days
7.AICTE/ISTE-Short term course	PSG Engg College,Coimbatore Tamil Nadu	Recent advances in metal shaping techniques	15-11-99 to 28-11-99	14days
8.AICTE/ISTE-Short term Training	REC,Calicut	TQMM&ISO9000	01-05-2000 to14-05-2000	14days
9.Short term Training Programme	AICTE/ISTE, Anjalai Ammal Mahalingam EnggCollege,ThiruvarurDistrict,Tamil Nadu.	Industrial safety &Environmental Engg	15to28 march 2004	14Days
10.UGC sponsored Refresher course	PS&RT, CUSAT	Polymer Science& Technology	22-01-2003 to 13-02-2003	23 days
11.National work shop	CECRI Karaikudi	Advanced Techniques for corrosion Studies	05-01-06 to 07-01-06	3 days
12.National Work shop	NIT,Trichy	NanoMaterials: Properties And Application	02-12-2006 to 03-12-2006	2 Days
13.AICTE-Staff Development Programme	NIT,Trichy	Quality through Six Sigma Concept and its implementation	14-12-09to 18-12-09	5 Days
14. ISTE Short Term course	CUSAT,Kochi-22	Safety Aspects in Engg-Needs and Practices	28-03-2011-08-04-2011	14 Days
15.ISTE Short Term Course	CUSAT,Kochi-22	Modern Materials and Methods		14 Days
16.Workshop	CUSAT,Kochi-22	Role of Intellectual Property Rights in the Knowledge Era	02-05-2011-14-05-2011	14 Days
17.Wokshop	CUSAT,Kochi-22	Building Online Course using Moodle	12-10-2011 06-08-2015-07-08-2015	1 Day 2Days

Reference:

Name and Designation	Address
1. Dr. Rani Joseph Professor	Department of Polymer Science & Rubber Technology, Cochin University, Kochi-22. Ph. 0484-2862377/2577850, E.mail: rani@cusat.ac.in
2. S. N. Jaisankar Principal Scientist	Polymer Lab, Central Leather Research Institute Adyar, Chennai - 600 020 e-mail: snjsankar@clri.res.in / snjaio@yahoo.com Phone: +91 44 24422059 Fax: +91 44 24911589

DECLARATION

I declare that the entries made in the columns of this proforma are correct and true to the best of my knowledge and nothing has been either concealed or misrepresented by me.

Place: Kochi-22

Date: 26-02-2016

Signature

(Dr. A.MATHIAZHAGAN)