Bharathidasan Thangavel

Doctorand
Corrosion Protection Division (CECRI), Central Electrochemical Research Institute
E-mail: chembharathi86@gmail.com ; Mobile: +91-9486917326

Highly self-motivated PhD candidate with demonstrated research expertise growing in Surface and Coating Industry. Strong interpersonal skills

Education

Ph. D in Chemical Sciences (Thesis submitted October 2020)
Research Topic: **Development of Multifunctional Superhydrophobic surfaces**

Masters in chemistry May 2007 – Apr 2009 **First class - 76.4 %**
Jamal Mohamed College
Tiruchirappalli, India

Bachelor in chemistry May 2004 – May 2007 **First class-72.7%.**
Bishop Heber College
Tiruchirappalli, India

Research Experience (9 yrs 7 Months)

Doctorand [CSIR Senior Research Fellow (March 2017- April 2020)]
Corrosion Materials and Protection Division
Central Electrochemical Research Institute, Karaikudi. INDIA

Project Assistant, Aug 2013 - March 2017
Corrosion Materials and Protection Division, Central Electrochemical Research Institute Karaikudi.
Project :
1. Development of Corrosion Resistant Superhydrophobic Coatings.
Contributed in Coatings formulation and its Evaluation.
Supervisor : Dr S .Sathiyanaryanan.

Project Assistant , April 2010- March 2013. Surface Engineering Division (SED), CSIR- National Aerospace Laboratories, Bangalore, India.
Project :
1. Development of anti-icing coatings.
2. Development of improved pressure and temperature sensitive paints.
3. Feasibility studies on the development of superhydrophobic coatings for aerospace applications.
Contributed in Coatings formulation and its Evaluation.
Supervisor : Dr Bharathibai J Basu

Publications

(https://scholar.google.co.in/citations?user=9jgcQ9QAAAAJ&hl=en)

1. Self- replenishing superhydrophobic durable polymeric nanocomposite coatings for heat exchanger channels in thermal management applications.
   T.Bharathidasan, S.Sathiyanaryanan. Progress in Organic Coatings, 2020,148, 105828.

2. Anionic surfactant doped synthesis of Poly Aniline Dendritic (PANID) fibers and its anti-corrosion performance.
   T.Siva **T.Bharathidasan**, S.Sathiyanarayanan. Materials Today Communications, 2019, 100812-22.

3. Performance Evaluation of Silane/siloxane Based Penetrating Sealer for Structural Applications in Marine Environment . Conference Proceedings NACE CORCON 2017, Issue RCC13.
   R.Vedalakshmi S.Sathyanarayanan, S.Sreejakumari and **T.Bharathidasan.**

4. Zinc Oxide-Containing Porous Boron–Carbon–Nitrogen Sheets from Glycine–Nitrate Combustion: Synthesis, Self-Cleaning, and Sunlight-Driven Photocatalytic Activity .
   T Bharathidasan, Aditya Mandalam, M Balasubramanian, P Dhandapani, S Sathiyanarayanan, Sundar Mayavan ACS Applied Materials & Interfaces 2015, 33, 18450-18459.

5. Above 170^{o} water contact angle and oleophobicity of fluorinated graphene oxide-based transparent polymeric films .
   T Bharathidasan, Tharangattu N Narayanan, S Sathyanaryanan, SS Sreejakumari , Carbon 2015, 84, 207-213.

6. Effect of Anodized Oxide Layer Aging on Wettability of Alkyl Silane Coating Developed on Aerospace Aluminum Alloy G. Yoganandan, **T. Bharathidasan**, M. Soumya Sri, D. Vasumathy, J. N. Balaraju, Bharathibai J Basu. Metallurgical and Materials Transactions A. 2015, 46 (1) 337-346.

7. Effect of wettability and surface roughness on ice adhesion strength of hydrophilic, hydrophobic and superhydrophobic surfaces **T.Bharathidasan**, Vijay Kumar, M.S. Bobji, R.P.S. Chakradhar, Bharathibai J. Basu Applied Surface Science 2014, 314, 241-250.

8. Superhydrophobicity of AA2024 by a simple solution immersion technique R. V. Lakshmi, **T. Bharathidasan**, Bharathibai J. Basu Surface Innovations 2013 1(4) 241 –247.

9. Superhydrophobic oleophobic PDMS- silica nanocomposite coating. Bharathibai.J.Basu, **T.Bharathidasan**, C.Anandan Surface Innovations 2013 1(1), 40-51.

10. Studies on the fabrication and characterization of optical sensor coatings for Aerodynamic applications. **T.Bharathidasan**, Bhavana Rikhari, Dijo Prasannan, V DineshKumar, R.P.S. Chakradhar, Bharathibai J Basu. Journal of Applied Sciences 2012, 12(16), 1646-650.

11. Fabrication of Superhydrophobic and Oleophobic sol-gel nanocomposite coating. R.V. Lakshmi, **T. Bharathidasan**, Parthasarathi Bera, Bharathibai J Basu. Surface & Coatings Technology 2012, 206, 3888-3894.

12. Superhydrophobic sol-gel nanocomposite coatings with enhanced hardness. R.V.Lakshmi, **T.Bharathidasan**, Bharathibai J Basu. Applied Surface Science. 2011, 257, 10421-10426.

Patent

1. Water repellent corrosion resistant coating and its process thereof.(Indian Patent No: 0253NF2016)

Technical Reports

1. Studies On Potential PSP Coatings Based on Platinum Porphyrin Dyes., Bhavana Rikahri ,**T Bharathidasan**, R P S Chakradhar Bharathibai J Basu. Report number: PDSE 1225, Affiliation: National Aerospace Laboratories.

2. Studies on the Evaluation of ice adhesion strength of different hydrophobic and superhydrophobic coatings. R P S Chakradhar, **T Bharathidasan**, Bharathibai J Basu Report number: PDSE 1224, Affiliation: National Aerospace Laboratories.

3. Luminescence Decay studies of Oxygen Sensor coating Based on Platinum Porphyrin Dyes. R P S Chakradhar, R V Lakshmi ,**T Bharathidasan**, Bharathibai J Basu Report number: PDSE 1207, Affiliation: National Aerospace Laboratories.

4. Superhydrophobic surface on AA2024 Alloy by chemical Etching Method. R V Lakshmi , **T. Bharathidasan**, Bharathibai J Basu Report number: PDSE 1131, Affiliation: National Aerospace Laboratories.

5. On Improving the hyrdrophobicity of polyurethane Paint coatings.**T. Bharathidasan**, Lakshmi RV, Bharathibai J Basu Report number: PDSE 1107, Affiliation: National Aerospace Laboratories.

6. Improvement of water and oil repellence of Sol - Gel Nanocomposites Coatings by Modification with a Fluoromethacrylate copolymer. R V Lakshmi , **T. Bharathidasan**, Bharathibai J Basu Report number: PDSE 1106, Affiliation: National Aerospace Laboratories.

Seminars/Conferences/Workshops

- Participated and presented a work (Superhydrophobic live demo on Industrial exhibition at International Symposium on Advances in Electrochemical Science & Technology (iSAEST-12)" , Chennai during 08-10 January, 2019 organized by SEAST, Karaikudi and CSIR-CECRI, Karaikudi.

- Participated and presented a paper (Oral) 19th National Conference on Corrosion Control 5 – 7 December 2018, Mayfair Convention, Bhubaneswar.
- Participated and presented a paper International Symposium on Advances in Electrochemical Science & Technology (iSAEST-11)" Chennai during December, 2016 organized by SEAST, Karaikudi and CSIR-CECRI, Karaikudi.

- Participated and presented a paper (poster) 18th National Conference on Corrosion Control 24 - 26 Feb., 2016, Hotel Green Park, Chennai.

- Participated and presented a paper (poster) 12th International Symposium on Surface Engineering and Protective Coatings On October, 7, 2015 at EXPO Centre Greater Noida ,organised by Society for Surface Protective Coatings, India.

- Participated and presented a paper (Oral) 17th National Conference on Corrosion Control 21 - 23 August, 2014, CSIR-Central Electrochemical Research Institute, Karaikudi.

- Participated and presented a paper (poster) in International conference on thin films & applications (ICTFA -2012).
  Title: Studies on the Fabrication and Characterization of Optical Sensor Coatings for Aerodynamic Applications.

- Paper presented (Review) in National conference on Non –Conventional Energy Sources – NESCON 2009 held at Guru Nanak College, Chennai during March 11-13, 2009.

Research Interests

Surface Science, Sol-Gel Coatings, Superhydrophobic Polymer films, Corrosion Control Coatings, Polymer Nano-composites, Self Healing Coatings.

Proficiency

Scanning Electron Microscope, BET Surface Area Analyzer, Zeta Analyzer, Electrochemical Impedance Spectroscopy, SVET, FTIR Spectroscopy, UV-Visible Spectroscopy, Optical Tensiometer - Contact Angle Meter. Paint Testing Analysis as per ASTM Standard.

Awards

Oct 2015 Award: Best Poster Award in SSPC 15 @ Noida

Sep 2015 Award: Best Research Display exhibits on CSIR Foundation day @ CSIR CECRI

Mar 2012 Award: Best Poster Award International Conference on Thin Films & Applications (ICTFA-2012)

Languages: Tamil, English.

Scientific Memberships

- Asian Polymer Association
- The Society For Surface Protective Coatings - India (SSPC India)
- Society for Advancement of Electrochemical Science and Technology (SAEST)

References

Dr. S. Sathiyanarayanan Chief Scientist Corrosion & Materials Protection Division CSIR-Central Electrochemical Research Institute Karaikudi - 03 Tamil Nadu, India. Phone: (O) 04565 241 522 Mobile: +91-9442215802 E-mail : sathya@cecri.res.in	Dr. M. Sundar Principal Scientist Lead Acid Battery Group, ECPS Division, CSIR-Central Electrochemical Research Institute Karaikudi - 03 Tamil Nadu, India. Phone: (O) 04565 241 423 Mobile : +91-7598446281 E-mail: sundarmayavan@cecri.res.in
Dr.Parathasarathi Bera Principal Scientist Surface Engineering Division CSIR- National Aerospace Laboratories Bangalore-17, India. Mobile : +91-9901135608 E-mail: partho@nal.res.in	Dr R.V.Lakshmi Senior Scientist Surface Engineering Division CSIR-National Aerospace Laboratories Bangalore-17, India. Mobile : +91-9591957000 E-mail:lakshmi_rv@nal.res.in

Declaration

I hereby declare that the above mentioned information is true to my knowledge and belief.

Place: Karaikudi
Date: 03-11-2020

Signature

(**T. BHARATHIDASAN)**