

Dr. Sari.P.Sasidharan

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PROFESSIONAL SUMMARY

I am a Polymer technologist with more than six years of scientific research experience. I have Proficiency in developing polymer composite materials and their characterizations and also experienced in developing new technological materials from natural sources. I have analytical knowledge and prowess in Spectroscopy, Microscopy, Mechanical properties of polymers, viscoelastic and thermal properties of polymers. I have 11 international publications and currently editing a book titled 'Plasma modification of Polyolefin- Synthesis, Characterization and Applications' with Springer International Publishing. In addition to it, currently I am one of the reviewer of international journals such as "Journal of Polymers and the Environment" and "International journal of material forming".

WORK EXPERIENCE

Cochin University of Science and Technology (CUSAT) - Kerala, India

July 2020 – PRESENT

Department of Polymer Science and Rubber Technology

Assistant Professor- Polymer Technology (on contract)

- Teaching various subjects in polymer science and technology for undergraduate and graduate students.
- Supervising the students in their project thesis as part of their curriculum.
- Providing demonstrations and supervising experiments and investigations.
- Providing Professors and Department Heads with feedback on student progress.
- Assisting with various departmental duties and providing academic support to Professors and other staff.
- Conducting research and publishing papers in academic journals.
- Attending faculty and departmental meetings and voicing concerns or providing suggestions for improvement.

Centre for Nano Science and Technology, M.G University - Kerala, India

June 2012 - September 2015

Research assistant

- Worked under the project entitled "Plasma modified Polyethylene blends and composites" from the company 'Surface treat a.s.' Czech Republic.
- Incorporation of plasma modified polyethylene as a filler in natural rubber matrix.
- Different processing techniques like two roll mill mixing and melt mixing were used for the fabrication.
- Effects of plasma modification on the cure kinetics, mechanical properties, morphology and cross link density were evaluated.
- Compiling and analyzing the research results and the preparation of journal articles or papers.

RESEARCH EXPERIENCE

Czech Technical University in Prague (CTU) – Prague, Czech Republic

March 2016 – April 2019

PhD

- Thesis titled as “Application of Plasma modified Polyethylene in composites with natural materials.”
- To improve the compatibility and interfacial adhesion between natural fibre and thermoplastic polyolefin.
- Plasma modification of polymer surface and chemical modification of natural fibre and its characterization by FTIR spectroscopy, mechanometry and morphology.
- Different processing techniques like Compression moulding, Injection moulding, Rotational moulding and polymer casting were followed to produce natural fibre composites.
- Study of interface by morphology, mechanical properties and water absorption characteristics.

EXPERTISE

- Natural fiber composites
- Polymer processing
- Polymer testing
- Chemical treatment of natural fiber
- Nano Composites
- Rubber compounding
- Latex technology

PUBLICATIONS

1. **Sari, P. S.**, N. S. Baneesh, Arunima Reghunadhan, Jiji Abraham, and Sabu Thomas. "Recycling of Polyurethanes." In Polyurethane Chemistry: Renewable Polyols and Isocyanates, pp. 413-427. American Chemical Society, 2021.
2. **Sari, P. S.**, Arunima Reghunadhan, Jiji Abraham, and Sabu Thomas. "Plasma Modification on Polyolefin: Necessity and Significance." In Plasma Modification of Polyolefins, pp. 1-14. Springer, Cham, 2022.
3. Akhina, H., Arunima Reghunadhan, Jiji Abraham, **P. S. Sari**, and N. S. Baneesh. "Plasma Modification of Polyolefin Blends and Composites." In Plasma Modification of Polyolefins, pp. 121-137. Springer, Cham, 2022.
4. **Sari P. S.**, Baneesh NS, Reghunadhan A, Abraham J, Thomas S. Recycling of Polyurethanes. In Polyurethane Chemistry: Renewable Polyols and Isocyanates, American Chemical Society (2021).
5. **Sari, P. S.**, Thomas, S., Spatenka, P., Ghanam, Z., & Jenikova, Z. Effect of plasma modification of polyethylene on natural fibre composites prepared via rotational moulding. Composites Part B: Engineering, 107344, (2019). (Impact factor : 9.078)
6. Zoya Ghanem, **Sari.P.S**, Petr Spatenka and Zdenka Jenikova, Rotational molding of plasma treated polyethylene/short glass fiber composites, International Journal of Engineering and Management Sciences (IJEMS) Vol. 4. No. 4, (2019).
7. **Sari P. S.**, Petr Spatenka, Evgeny Anisimov, and Sabu Thomas. "Plasma Modified and Unmodified Polyethylene as Filler in Natural Rubber Compounds: Morphology, Cure Behavior and Vulcanization Kinetics." In Macromolecular Symposia, vol. 381, no. 1, p. 1800135. 2018.
8. Zoya Ghanem, **Sari.P.S**, Petr Spatenka. "Rotational moulding of composites" In new trends in biomedical and bio based materials,(2019).
9. **Sari.P.S.**, T. Sharika, K. Bicy, and Sabu Thomas. "Recycling of Polyolefin Materials." In Polyolefin Compounds and Materials, pp. 315-339. Springer International Publishing, (2016).
10. Ajitha A.R., **Sari P.S.**, Maria H.J., Thomas S. "Multilayer Nanowires and Miscellaneous Multilayer Products". In Multicomponent Polymeric Materials. Springer Series in Materials Science, vol 223. (2016).
11. **Sari P.S.**, Petr Spatenka, Zdenka Jenikova, Yves Grohens, and Sabu Thomas. "New type of thermoplastic bio composite: nature of the interface on the ultimate properties and water absorption." RSC Advances 5, no. 118: 97536-97546, (2015).

ACADEMIC DETAILS

PhD in Materials Engineering- *Czech Technical University in Prague (CTU), Czech Republic*

April 2016 – April 2019

Master of technology (M Tech) in Rubber Technology – *Indian Institute of Technology (IIT), Kharagpur, India*

June 2009 – August 2011

Bachelor of technology (B Tech) in Rubber Technology – *Cochin University of Science and Technology (CUSAT), Kerala, India*

June 2009 – August 2008

CONFERENCES AND WORKSHOPS

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- Presented a paper entitled "Influence of plasma modified polyethylene on the mechanical properties of natural rubber" in National Conference on Recent Trends in Materials Science (NCMST 2013) and Technology at Indian Institute of Space Science and Technology.
- Presented a poster titled "New type of Natural fibre composites" on Third International Conference on Polymer Processing and Characterization (ICPPC – 2014).
- Presented a poster titled "Plasma modified polyethylene natural fiber composites" on International Conference on Plasma & Nanotechnology (PLASMA- 2014) and 29th National Symposium on Plasma Science & Technology.
- Presented a poster titled "Effect of plasma modified polyethylene on the cure behavior and morphology properties of natural rubber composite "on First International Conference on Advanced Nano composite for Construction materials (ICNC2013).
- Participated in Second International Conference on Nanostructured Materials and Nano composites (ICNM 2014).
- Participated in The India-Israel Meeting on Material science and Nano science (IMMN-2013).
- Participated in Third International Multi component Polymer Conference (IMPC 2012).
- Participated in First Indo-US International Conference on Polymers for Packaging applications. (ICPPA-2012).
- Participated in First International Conference on Plasma Processing of Organic Materials Polymers (PPOMP 2012).

PROJECTS UNDERTAKEN

Master of Technology

- Quality improvement of radiation prevulcanised Natural Rubber latex (RVNRL) and Compatibilization of RVNRL / XNBR blend with Nano filler.

Bachelor of Technology

- Study on the effect of varying amount of silica in a NR based truck tyre tread compound.
- Study on the effect of Sulphur on cure characteristics and crosslink density of Natural Rubber based compound.

TRAININGS

- Underwent one month training at Rubber Research Institute of India, Kottayam as a part of curriculum requirement. Learnt testing of raw rubber properties, vulcanisate properties, latex properties and product manufacturing based on latex as well as dry rubber.
- Underwent two months training at Apollo Tyres Ltd Kalamassery as a part of curriculum requirement. Learnt rubber compounding, processing techniques such as extrusion calendaring, tyre manufacturing and tyre testing.

PERSONAL INFORMATIONS

- Date of birth : 01-05-1987 (1ST May 1987)
- Gender : Female
- Marital status : Married
- Nationality : Indian
- Languages known : Malayalam, English, Hindi
- Driving license : Indian
- Contact numbers : +91 8921970724 , +91 9605858329

RERERENCES

Prof. Dr. Petr Spatenka

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DECLARATION

I hereby declare that all the statements made in this resume were true, complete and correct to the best of my knowledge and belief.

Dr. Sari Panikkassery Sasidharan