



### BIO-DATA

Name : Dr. THOMAS KURIAN  
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Date of birth : May 25, 1961  
 Teaching experience : Since March 1988  
 Date of retirement : May 31, 2021  
 Languages known : English, Malayalam, and Hindi, Japanese

### **ACADEMIC QUALIFICATIONS**

Degree	University	Subject	Year
P.G.D.T.R.M	IGNOU	Teaching and Research in Management	2010
M.B.A	School of Management Studies, Cochin University of Science, and Technology	Business Administration	2005
Bridge Fellow (Postdoc.) (JSPS)	Dept. of Polymer Science and Engineering, Yamagata University, Japan	Polymer Engineering	2010
Postdoc. (JSPS) (2 years)	Dept. of Polymer Science and Engineering, Yamagata University, Japan	Polymer Engineering	Nov. 2001- Nov. 2003
Ph. D.	IIT Kharagpur, India (Fellow, QIP)	Polymer Technology	1996
M.Tech.	Cochin University of Science & Technology	Polymer Technology	1987
B. Tech.	University of Cochin	Polymer Science & Rubber Technology	1985
B. Sc.	University of Kerala	Chemistry (main), Physics & Maths	1982
P.G.Cert	Cochin University of Science & Technology	German Language	1986

### **CAREER**

Position <sup>a</sup>	Name of the Department and University	Duration
Head of the Department (Administrative experience)	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	September 01, 2006 to August 31, 2009 (3 years), September 14, 2015 to August 02, 2016(10 months and 19 days), February 01, 2017 to March 07, 2017 (1 month and 7 days) <b>Total: 3 years 11 months and 26 days.</b>

Emeritus Scientist-CSIR	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	July 20, 2022 - up to July 19, 2025.
Adjunct Faculty	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	July 20, 2021 - July 19- 2022 August 07, 2025 – ..... <b>continuing</b>
Professor	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	January 01, 2006 – May 31, 2021
Reader	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	October 09, 1998 to December 31, 2005.
Senior Lecturer	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	March 17, 1994 to October 08, 1998
Lecturer	Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology	March 17, 1988 to March 16, 1994
Chairman	Board of Studies (Polymer Chemistry), University of Kerala	July 2013 - July 2016
Chairman	Board of Studies (Polymer Science and Rubber Technology), Cochin University of Science and Technology	July 2016 - July 2020
Co-ordinator	<b>UGC-NET, Cochin Centre</b>	(i) June 2013, (ii) December 2013 and (iii) June 2014.
	<b>Joint CSIR-UGC NET, COCHIN Centre</b>	(i) June 2015, (ii) December 2015 and (iii) June 2016.
	NATIONAL CONFERENCE ON CURRENT TRENDS IN POLYMER SCIENCE (CTPS' 2019) NATIONAL CONFERENCE ON CURRENT TRENDS IN POLYMER SCIENCE (CTPS' 2020)	March 22, 2019 February 28, 2020
Co-coordinator (Research Projects)	(i) UGC SAP – II Rs. 1.24 Crores + 1 PF (ii) UGC SAP-I Rs. 43 Lakhs, (iii) AICTE Rs. 12.7Lakhs	(2015 – 2020) (2009 – 2014) (2007 – 2009)
Chief Convener	International Conference on Advances in Polymer Technology, Kochi, India, 2008.	September 25-27, 2008.
Convener	International Conference on Advances in Polymer Technology, Kochi, India, 2016 (APT'16).	February 25 – 26, 2016.
Impartial Observer	Cochin University Union Elections	2015 - 2017
Member	Member: (i) Board of studies in Polymer Chemistry (Fatima Matha National College, Kollam) (ii) Curriculum Committee, APJ Abdul Kalam Technological University, Thiruvananthapuram (iii) Selection Committee for the Recruitment of Teachers, University of Calcutta (iv) Academic Committee, DDUK, CUSAT (v) Academic Committee of Credit and Semester System, CUSAT (vi) Academic Committee, IUCNMD, CUSAT (vii) Scrutiny Committee for CUSAT Diary (viii) Academic Bulletin Committee (CUSAT) (ix) IQAC (CUSAT) (x) Board of Studies in Nano-science (CUSAT) (xi) Board of Examiners (External Expert – MBA Final Viva-voce) School of Management Studies, CUSAT.	Since July 2018 (for three years). Since July 2018. 2014, 2017. Since October 2017. July 2016- July 2018. Since December 2015. 2014, 2016, 2017, 2016 – 2018. Since March 2014 for 2 years. Since July 2014 (for four years) 2018 and previous years.

<sup>a</sup>The tenure of JSPS (Postdoc and Bridge, Japan) Fellowships and Ph. D. program (under QIP Fellowship) are considered as deputation during the service at the Dept. of Polymer Science & Rubber Technology, Cochin University of Science & Technology.

**RESEARCH EXPERIENCE**

<i>Research stage</i>	<i>Title of work</i>	<i>University where the work was done</i>
Ph. D.	Studies on Ionic Thermoplastic Elastomer based on EPDM	IIT Kharagpur, India
Post-Doctoral (JSPS)	Studies on Ethylene based Ionomers with Binary Metal Cations	Dept. of Polymer Science & Engineering Yamagata University, Japan
Post-Doctoral (JSPS-BRIDGE)	The Study of the Photo-Degradability and Bio-Degradability of Various Grades of Polyethylene.	Dept. of Polymer Science & Engineering Yamagata University, Japan

**DETAILS OF PH.D. PROGRAMS SUPERVISED AT COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

<i>Sl. No.</i>	<i>Name of Student</i>	<i>Title of Thesis</i>	<i>Date of submission of Thesis</i>	<i>Date of award of Degree</i>
1.	Thommachan Xavier	Synthesis and Characterisation of Thermoplastic Ionomers based on Natural Rubber	March 25, 2002	January 27, 2003
2.	Jacob Samuel	Synthesis and Characterization of Novel Ionomers based on Styrene-butadiene Copolymers	December 29, 2002	August 4, 2003
3.	Anna Dilfi K.F.	Linear low density polyethylene - Biodegradability using bacteria from marine benthic environment and photodegradability using ultraviolet light	August 10, 2011	April 12, 2012
4.	Zeena. P. Hamza	Ionomer Compatibilized Low Density Polyethylene – Tapioca Starch Blends <i>Biodegradability and Photodegradability</i>	October 18, 2012	August 12, 2013
5.	Sasidharan K.K.	Natural Rubber Latex Filler Masterbatch by Soap Sensitised Coagulation -Preparation, Processing and Evaluation	February 21, 2014.	October 01, 2014.
6.	Anand K.	Studies on Preparation, Characterization and Evaluation of Micron to Nano sized Dispersions in Latex Technology	January 30, 2017.	August 18, 2017
7.	ABHITHA K.	Safe Accelerator Incorporated Non-cytotoxic Vulcanizates based on Natural Rubber	June 21, 2017	February 16, 2018
8.	Muralidharan M. N.	Development of Reduced Graphene Oxide/Polymer Nanocomposites for Optical Limiting, Optical Actuation and Electrical Applications	August 05, 2017	June 08, 2018.
9.	Molice Thomas	EFFECT OF N-BENZOYL-N', N'-PYRROLIDINYLTIOUREA AS A NOVEL SECONDARY ACCELERATOR IN THE VULCANIZATION OF ELASTOMERS	October 13, 2017	June 18, 2018.
10.	Neena George	Chemical Recycling of PET Bottle Waste to Terephthalic Dihydrizide and	November 15, 2017	August 13, 2018

		its Application as a Versatile Polymer Additive		
11.	Kingsley Kema Ajekwene	Studies on Ionomer-Polyaniline and Ionomer-Polyaniline-MWCNT composites for electrical and electromagnetic Interference shielding applications	May 06, 2019	October 05, 2019

- Number of Research Scholars (Ph.D.) currently being supervised: **1**.

**Current research areas:**

- Bio-degradable polymers
- Ionomers
- Latex stage compounding
- Reclamation of rubber vulcanisates
- Safe rubber chemicals
- Polymer recycling

**PUBLICATIONS**

**I. BOOK**

**Nanocomposite Materials: Synthesis, Properties and Applications**

Jyotishkumar Parameswaranpillai, Nishar Hameed, **Thomas Kurian** and Yingfeng Yu - **CRC Press, Boca Raton, FL 33487, USA**, June 29, 2016. ISBN 9781482258073 - CAT# K24125

**II. BOOK CHAPTER**

Natural Rubber: Production, Properties, and Applications, Ch. 14, in **Biopolymers: Biomedical and Environmental Applications**, Edition: 1, **Wiley-Scrivener, USA**, August 16, 2011. ISBN: 978-0-470-63923-8.

**III. RESEARCH PAPERS PUBLISHED IN INTERNATIONAL JOURNALS**

1. Filler-enhanced conductive elastomers for next-generation electronics applications: a short review, Sony, A., Radhakrishnan, S., Jelmy, E.J., Rinku M. Thomas, Thomas Kurian and Honey John, Filler-enhanced conductive elastomers for next-generation electronics applications: a short review. *Discov Appl Sci* 7, 1330 (2025). <https://doi.org/10.1007/s42452-025-07290-w>.
2. Influence of filler mixing technique on the properties of silica-filled natural rubber vulcanizates, Athira Sony and Thomas Kurian, *Brazilian Journal of Development (BJD)*, 2025, v. 11, n . 2, p. 01-13.
3. Impact of filler mixing technique on the properties of natural rubber vulcanizates filled with carbon black/clay, Athira Sony and Thomas Kurian, *Brazilian Journal of Development (BJD)*, 2024, v. 10, n .12, p. 01-16.
4. Synthesis of derivative of zinc dithiocarbamate of piperazine (ZDPC) and its application as a safe accelerator for the vulcanization of natural rubber latex, Shincy Alamparambil Jabbar, Abhitha Kozhikodanparambil, Thomas Kurian, *Brazilian Journal of Development (BJD)*, 2024, v. 10, n .4, p. 01-12.
5. Synthesis of Dipiperazine Thiuramdisulphide (DPTD) and its application as a safe accelerator for the vulcanisation of natural rubber, Thomas Kurian, Abhitha Kozhikodanparambil, Shincy Alamparambil Jabbar, *Brazilian Journal of Development (BJD)*, v. 10, n .3, 2024, p. 01-14.
6. Transport properties of radiation vulcanized natural rubber latex nanocomposites, Neethu Varghese, Siby Varghese,A.A. Shybi &Thomas Kurian, *Radiation Effects and Defects in Solids - Incorporating Plasma Science and Plasma Technology*, Volume 177, Issue 5-6, March 2022 (417 – 431).
7. Effect of split addition of initiator and antioxidant in radiation vulcanised natural rubber latex , Neethu Varghese, Siby Varghese, Vaishak Nambiathodi and Thomas Kurian, *Radiation Effects and Defects in Solids*, Volume 176, No. 7 – 8, 2021 (731 - 746).
8. Effect of nanofillers on radiation crosslinked natural rubber latex vulcanisates, Neethu Varghese, Siby Varghese, Shybi A.A. & Thomas Kurian, *Radiation Effects and Defects in Solids – Incorporating Plasma Science and Plasma Technology* , Volume 176, Issue 11-12 Oct 2021 (1003 – 1020).

9. Enhanced mechanical properties of radiation vulcanized natural rubber latex by using t-butyl hydroperoxide, Neethu Varghese, Siby Varghese, AA Shybi and Thomas Kurian, *Progress in Rubber, Plastics and Recycling Technology*, Vol. 37, Issue 3, August 2021 (203 - 215).
10. Preparation of a one-component epoxy adhesive using PET bottle waste derived terephthalic dihydrazide as latent curing agent, Neena George, T.K. Bindu Sharmila and Thomas Kurian, *International Journal of Adhesion and Adhesives*, Vol. 98, April 2020 (102524).
11. Effect of Sequence of Mixing and Internal Mixer Parameters on the Viscosity of Compounds for Tire Components, Oluwatobi Elijah Akindele, Thomas Kurian and Umesh Gopi, *International Journal of Interdisciplinary Research and Innovations* ISSN 2348-1226 (online) Vol. 7, Issue 1, pp: (497-503), Month: January - March 2019.
12. Sodium Salt of Polyethylene-Co-Methacrylic Acid Ionomer/Polyaniline Binary Blends for EMI Shielding Applications, Kingsley K. Ajekwene, Jelmy E. Johny and Thomas Kurian, *Progress In Electromagnetics Research C*, Vol. 88, 207–218, 2018.
13. Bulk and nano-structured polyaniline: synthesis, characterization, thermal behaviour and dc conductivity, Kingsley Kema Ajekwene and Thomas Kurian, *International Journal of Research in Advent Technology*, Vol.6, No.9, September 2018 (E-ISSN: 2321-9637), pages 2385 – 2391.
14. Preparation, characterization, thermal behaviour and dc conductivity of nano-structured polyaniline doped with hcl or tsa: a comparative analysis: Ajekwene K K, Jelmy E J and Thomas Kurian, *Journal of Emerging Technologies and Innovative Research (JETIR)*, (ISSN-2349-5162), September 2018, Volume 5, Issue 9, pages 294 – 299.
15. Preparation, characterization, thermal behaviour and dc conductivity of nanopolyaniline and polyaniline-multi walled carbon nanotube nanocomposites, Kingsley Kema Ajekwene, Jelmy E Johny and Thomas Kurian, *Journal of Emerging Technologies and Innovative Research (ISSN : 2349-5162)*, Volume 5 Issue 9 , September-2018, pages 374 – 386.
16. Effect of ball size on the milling efficiency of zinc oxide dispersions, Anand, K., Siby Varghese and Thomas Kurian, *Particulate Science and Technology*, 36, No. 3, 2018, 308 - 311.
17. Progress in Preparation, Processing and Applications of Conducting Polymer-Ionomer Blends, Kingsley Kema Ajekwene, Honey John and Thomas Kurian, *International Journal of Research and Scientific Innovation (IJRSI)*, Vol. IV, Issue IX, September 2017, 23 – 31.
18. Aqueous Dispersions of Latex Compounding Ingredients by Wet Ball Milling: Effect of Ball Size and Milling Time on Dispersion Quality, K.Anand, Siby Varghese and Thomas Kurian, *Trans Indian Inst Met (2017) 70(6):1593–1600*.
19. Non-regulated Accelerator (DCBS/DBBS) Incorporated Natural Rubber Formulations - Cure Characteristics and Mechanical Properties, Abhitha K. and Thomas Kurian June 2017 Page No.: 01-06, *International Journal of Research and Scientific Innovation(IJRSI) ISSN: 2321 – 2705, 2nd Special Issue on Engineering & Technology, Volume IV & Issue VIS*.
20. Effect of nanoparticulate Zinc Oxide on the Properties of natural Rubber Vulcanizates produced by Latex Compounding, K. Anand, Siby Varghese and Thomas Kurian, *KGK Kauschuk Gummi Kunststoffe ( Germany)*, 1-2 2017, Pages: 34 - 39.
21. Combined Effect of a Bio-Filler and Pro-Oxidants on the Degradation of Linear Low Density Polyethylene, Anna Dilfi K. F., Thomas Kurian, Raghul Subin S., and Saritha G. Bhat, *International Journal of Engineering and Information Systems (IJEAIS) ISSN: 2000-000X Vol. 1 Issue 3, May – 2017, Pages: 19-36*.
22. Effect of Maleation on the Mechanical Properties and Biodegradation of Linear Low Density Polyethylene-starch Blends, Anna Dilfi K. F., Thomas Kurian, Raghul Subin S., and Saritha G. Bhat, *International Journal of Engineering and Information Systems (IJEAIS) ISSN: 2000-000X Vol. 1 Issue 2, April – 2017, Pages: 101-110*.
23. Evaluation of TBBS and TBzTD based Binary Accelerator Systems in Natural Rubber Compounds, K. Abhitha, Thomas Kurian and L. Jayabalan, *Rubber Science*, 29 (2), 2016: Pages 199 – 206.
24. Optical limiting properties of in situ reduced grapheme oxide/polymer nano composites, M.N. Muralidharan, S. Mathew, A. Seema, P. Radhakrishnan and Thomas Kurian, *Materials Chemistry and Physics*, **171**, 2016, 367-373.
25. "Sodium Carbonate Catalyzed Aminolytic Degradation of PET" Neena George and Thomas Kurian, *Progress in Rubber, Plastics and Recycling Technology*, Volume 32, No. 3, 2016, 153 – 168.
26. The Effect of N-benzoyl-N', N'-pyrrolidinylthiourea-A Novel Secondary Accelerator in the Sulphur Vulcanization of NR/SBR Blend, Molice Thomas, K. Kurien Thomas and Thomas Kurian, *IJSRD - International Journal for Scientific Research & Development*, Vol. 3, Issue 11, 2016 , ISSN : 2321-0613, pages 825 – 829.
27. Degradation behavior of nano silica and nano titania filled natural rubber latex Nanocomposites, K. Anand, Siby Varghese and Thomas Kurian, *Rubber Science*, **28**(3): 294-304, 2015.

28. Effect of Micro and Nano Zinc Oxide on the Properties of Pre-vulcanized Natural Rubber Latex Films, Anand K, Siby Varghese and Thomas Kurian, *Progress in Rubber plastics and Recycling Technology*, **31** (3), 145 – 156 (2015).
29. Preparation of ultra-fine dispersions of zinc oxide by simple ball-milling: Optimization of process parameters, K. Anand, Siby Varghese and Thomas Kurian, *Powder Technology* 271 (2015) 187–192.
30. Synthesis of ZnO Nano Rods through Mechano-Chemical Route: A Solvent Free Approach, Anand K., Siby Varghese and Thomas Kurian, *International Journal of Theoretical and Applied Sciences* **6**(1): 87-93(2014).
31. Recent Developments in the Chemical Recycling of Postconsumer Poly(ethylene terephthalate) Waste, Neena George and Thomas Kurian, *Industrial Engineering Chemistry Research (American Chemical Society)*, **53**, 14185 – 14198, 2014.
32. Optimization of Process parameters for Stable ZnO Dispersions. Anand K., Siby Varghese, Shera Mathew and Thomas Kurian, *Rubber Science*, **27** (1): 146 – 152, 2014.
33. HAF/Silica/Nanoclay "Ternary" Masterbatch and HAF/Silica Binary Masterbatch from Fresh Natural Rubber Latex." Sasidharan Krishnan, Rosamma Alex, and Thomas Kurian; *Rubber Chemistry and Technology (American Chemical Society)*, **87** (No. 2), 250 – 263, 2014.
34. Carbon Black Masterbatch Using Different Forms of Natural Rubber Latex, K.K. Sasidharan, Rosamma Alex and Thomas Kurian, *Rubber Science*, **26** (1): 158 – 165, 2013.
35. Studies on non-regulated safe binary accelerator system for efficient vulcanization of natural rubber, K. Abhitha, Philip Kurian, Thomas Kurian and L. Jayabalan, *Progress in Rubber, Plastics and Recycling Technology*. **29**: (2) 99- 108, 2013.
36. Safe Vulcanisation System for Heat Resistant Natural Rubber Products for Engineering Applications, Abhitha K., and Thomas Kurian, *American Journal of Engineering Research*, 2013, pp -08- 13 (e-ISSN- : 2320-0847, p-ISSN : 2320-0936).
37. Carbon black master batch from fresh natural rubber latex, R. Alex, K.K. Sasidharan, T.Kurian, and A.K.Chandra, *Plastics, Rubber and Composites*, **40**: (8) 420 – 424, 2011.
38. Studies on biodegradability of linear low density polyethylene-dextrin blends using vibrios from benthic environment, Zeena P. Hamza, Anna Dilfi K. F, Thomas Kurian and Saritha G. Bhat, *Progress in Rubber, Plastics and Recycling Technology*. **25**: (3)129- 140, 2009.
39. Biodegradability studies on LDPE-starch blends using amylase-producing vibrios, Zeena P. Hamza, Anna Dilfi K. F, Thomas Kurian and Saritha G. Bhat, *International Journal of Polymeric Materials*, **58**: 257-266, 2009.
40. Effect of amylase producing vibrios from the benthic environment on the biodegradation of low density polyethylene-dextrin blends, Anna Dilfi K. F, Zeena P. Hamza, Thomas Kurian and Saritha G. Bhat, *Polymer-Plastics Technology and Engineering* **48**: 602–606, (2009).
41. Biodegradability of LLDPE-starch blends using vibrios from benthic environment, Anna Dilfi K. F, Zeena P. Hamza, Thomas Kurian and Saritha G. Bhat, *International Journal of Plastics Technology*, **Vol. 12**, 1021 – 1030 (2008).
42. Microwave oven for the rapid determination of total solids content of natural rubber latex, Zeena P. Hamza, Anna Dilfi K.F., Muralidharan M.N., and Thomas Kurian, *Intern. J. Polymeric Mater.*, **57**, 918-923, 2008.
43. Dynamic Melt Rheological Properties of Ionomers based on Poly (ethylene-co-acrylic acid) and Poly (ethylene-co-methacrylic acid), T.Kurian, M.Nishio, A. Nishioka, T. Takahashi and K.Koyama, *Intern. J. Polymeric Mater.*, **56**, 135, 2007.
44. Thermoplastic Ionomers based on Styrene Grafted Natural Rubber, Thommachan Xavier, Jacob Samuel, and Thomas Kurian, *Intern. J. Polymeric Mater.*, **52** (No.4) , 251(2003).
45. Reprocessable Ionic Elastomers based on Styrene-Butadiene Rubber, Jacob Samuel, Kochu Baby Manjooran and Thomas Kurian, *Intern. J. Polymeric Mater.*, **52**, 49 (2003).
46. Microwave studies on ZnS-HSR ionomers, K.T.Mathew, S.Biju Kumar, Anil Lonappan, Joe Jacob, Thomas Kurian, Jacob Samuel and Thommachan Xavier, *Materials Chemistry and Physics*, **79**, 187 (2003).
47. Dielectric Properties of Ionomers at Microwave Frequencies, K.T.Mathew, S.Biju Kumar, Anil Lonappan, Joe Jacob, Jacob Samuel, Thommachan Xavier and Thomas Kurian, *Materials Letters*, **56**, 248, (2002).
48. New Ionic Polymer: Synthesis and properties of zinc sulfonated natural rubber, Thommachan Xavier, Jacob Samuel, Kochu Baby Manjooran, and Thomas Kurian, *Journal of Elastomers and Plastics*, **34**,91(2002).
49. High Styrene Rubber Ionomers: an alternative to thermoplastic elastomers, Jacob Samuel, Thommachan Xavier and Thomas Kurian, *Journal of Applied Polymer Science*. **85**, 2294 (2002).
50. Synthesis and Characterization of Novel Melt Processable Ionomers based on Radiation Induced Styrene Grafted Natural Rubber, Thommachan Xavier, Jacob Samuel, and Thomas Kurian, *Macromolecular Materials and Engineering*, **286**, 507 (2001).
51. Ionomers, Jacob Samuel, Thommachan Xavier, and Thomas Kurian, *Progress in Plastics and Rubber Technology*, **16**, (No.1), pp. 1-15, 2000.
52. Effect of clay on the properties of ionic thermoplastic elastomer based on EPDM, Thomas Kurian, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; *Journal of Applied Polymer Science*, **62**, 1729 (1996).

53. Reinforcement of an ionic thermoplastic elastomer based on zinc sulfonated EPDM by precipitated silica, Thomas Kurian, D.Khastgir, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Polymer**, **37**, 5597 (1996).
54. Plasticization of an ionic thermoplastic elastomer based on EPDM by diethylene glycol, Thomas Kurian, D.Khastgir, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Polymer Communications**, **37**, 4865 (1996).
55. Studies on blends of ionomers, Thomas Kurian, Santanu Datta, D.Khastgir, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Polymer**, **37**, 4787 (1996).
56. Effect of paraffinic oil and zinc stearate as plasticizers on properties of ionic thermoplastic elastomer based on zinc sulfonated EPDM, Thomas Kurian, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Kautschuk Gummi Kunststoffe**, **49**, 755 (1996).
57. Plasticization of an ionic thermoplastic elastomer based on zinc sulfonated ethylene-propylene-diene terpolymer of high ethylene content, Thomas Kurian, D.Khastgir, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Polymer**, **37**, 413 (1996).
58. Reinforcement of EPDM-based ionic thermoplastic elastomer by carbon black, Thomas Kurian, P.P.De, D.Khastgir, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Polymer**, **36**, 3875 (1995).
59. Thermoplastic elastomer based on ionomer, Thomas Kurian, D.Khastgir, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Rubber World**, **213**, 41 (1995).
60. Effect of zinc stearate and paraffinic oil on properties of carbon black filled EPDM based ionic thermoplastic elastomer, T. Kurian, A.K.Bhattacharya, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **Plastics Rubber and Composites Processing and Applications**, **24**, 285 (1995).
61. Effect of vulcanization temperature on the cure characteristics and vulcanizate properties of polybutadiene rubber, T. Kurian, K.E. George, and D.J. Francis; **Indian Journal of Technology**, **27**, 21 (Jan.1989).
62. Effect of vulcanization temperature on the technical properties of NR, SBR and BR, Thomas Kurian and K.E. George, **Journal of Applied Polymer Science**, **37**, 987 (1989).
63. Effect of vulcanization temperature on the cure characteristics and vulcanizate properties of natural rubber and styrene butadiene rubber, T. Kurian, K.E George, and D.J. Francis; **Die Angewandte Makromolekulare Chemie**, **162**, 123 (1988).

#### IV. RESEARCH PAPERS PUBLISHED IN INTERNATIONAL MAGAZINES

1. Effect of iron oxide on the photodegradation of linear low density polyethylene-dextrin blend, Anna Dilfi K. F, Raghul Subin S., Thomas Kurian and Saritha G. Bhat; **IPI Journal**, Volume 18, Issue 4, October/ November, 2013, p. 16 – 20.
2. A new process for making masterbatch from NR latex, Arup Chandra, James Jacob, Rosamma Alex, K.K. Sasidharan, and Thomas Kurian, **Rubber Asia**, May – June 2012 (pages 94 – 97).
3. Carbon Black/Silica Master Batch From Fresh Natural Rubber Latex, K.K. Sasidharan, Rosamma Alex, James Jacob, Thomas Kurian and Arup K Chandra, **Rubber India**, Vol. LXIV, No. 3, March 2012
4. Polyethylene – Breaking new grounds, Thomas Kurian and Anna Dilfi K.F., **Recycle Now**, Volume 2, Number 1, January 2012 (pages 28 – 30).
5. SEPDM a substitute for vulcanized EPDM? Thomas Kurian, **Rubber Asia**, September - October 1998, p.57 - 62.

#### V. RESEARCH PAPERS PRESENTED AT INTERNATIONAL CONFERENCES.

1. Eco-friendly Chemical Recycling of PET Bottle Waste for the Manufacture of Rubber Chemicals. (**Best Poster Award- Scientist Category in the field of Engineering and Technology**), 38<sup>th</sup> Kerala Science Congress, St. Albert's College, Jan 30– Feb 02, 2026 Ernakulam Conducted by Kerala State Council for Science, Technology and Environment (Government of Kerala)..
2. Manufacture of Rubber Compounding Additives by the Chemical Recycling of Post-consumer PET Bottle Waste, Thomas Kuriana and Neena George, First International Conference on Chemical Engineering Sciences: Advances In Energy Harvesting And Storage (Chemscape 2025) October 30, 31 & November 1, 2025 Kottayam, Kerala State, India, Jointly Organised By Department Of Chemical Engineering Saintgits College Of Engineering (Autonomous) &ATW Solid State Hydrogen Research Centre at National Taiwan University of Science and Technology, Taiwan.

3. Synthesis of Accelerator and Antioxidant for Rubber Compounding by Chemical Recycling of Post-consumer PET Bottle Waste, Thomas Kurian, 11<sup>th</sup> International Conference on Advancements in Polymeric Materials (APM20), February 13 – 15, 2020, CIPET- SARP, Bengaluru, India.
4. Chemical Recycling of PET Bottle Waste for the Manufacture of Rubber Chemicals, Thomas Kurian, Advances in Polymer Science and Rubber Technology (APSRT-2019), Indian Institute of Technology, Kharagpur, September 24-27, 2019.
5. Effect of Antioxidant Purity on Thermo-oxidative Ageing Properties of Safe Accelerator Based Natural Rubber Vulcanizates, Abhitha K. and Thomas Kurian, International Conference on Emerging Advancement in Science and Technology & 10<sup>th</sup> India – Japan Science and Technology Conclave, September 5 – 6, 2019, New Delhi, India.
6. Synthesis of Terephthalic Dihydrazide from Waste PET Bottles and its use as Polar Nano-reinforcing Filler in Nitrile Rubber, Neena George and Thomas Kurian, International Conference on Emerging Advancement in Science and Technology & 10<sup>th</sup> India – Japan Science and Technology Conclave, September 5 – 6, 2019, New Delhi, India.
7. Synthesis of Chemicals for Rubber compounding from Post-consumer PET Bottles, Thomas Kurian, International Conference and Exhibition on Polymers, (ICEP) , February 23 – 25, 2018, Maniram Diwan Trade Centre, Guwahati, Assam.
8. Thermally reduced graphene oxide/polymer nanocomposites as nonlinear optical absorbers, M. N. Muralidharan, S. Mathew, A. Seema, P. Radhakrishnan and Thomas Kurian, International Conference on Crystal Ball Vision on Science & Engineering for Societal Upliftment (CSIR-NIO and IJAA 8th India-Japan Science and Technology Conference), GOA, August 7-8, 2017.
9. Studies on cure characteristics and properties of safe accelerator incorporated natural rubber compounds in efficient vulcanization, Abhitha K and Thomas Kurian, International Conference on Crystal Ball Vision on Science & Engineering for Societal Upliftment (CSIR-NIO and IJAA 8th India-Japan Science and Technology Conference), GOA, August 7-8, 2017.
10. Effect of a Novel Secondary Accelerator N- benzoyl-N',N'-pyrrolidinylthiourea with MBTS/CBS in the Sulphur Vulcanization of Silica Filled SBR, Molic Thomas, K. Kurien Thomas and Thomas Kurian. International Conference on Crystal Ball Vision on Science & Engineering For Societal Upliftment (CSIR-NIO and IJAA 8th India-Japan Science and Technology Conference), GOA, August 7-8, 2017.
11. Synthesis of a macrocyclic bis-hydrazone using postconsumer poly (ethylene terephthalate) bottle waste flakes as precursor, Neena George and Thomas Kurian. International Conference on Crystal Ball Vision on Science & Engineering For Societal Upliftment (CSIR-NIO and IJAA 8th India-Japan Science and Technology Conference), GOA, August 7-8, 2017.
12. Influence of Silane Coupling agent on Cure characteristics and Mechanical properties of Silica-filled Nitrosamine safe Natural Rubber Vulcanizates, Abhitha K. and Thomas Kurian, International Symposium on New Trends in Applied Chemistry (NTAC -2017), Sacred Heart College and Hotel Crown Plaza, Kochi, India, 9-11 February, 2017.
13. The effectiveness of PET bottle waste derived terephthalic acid hydrazone as an antioxidant for Natural Rubber processing, Neena George and Thomas Kurian, International Symposium on New Trends in Applied Chemistry (NTAC -2017), Sacred Heart College and Hotel Crown Plaza, Kochi, India, 9-11 February, 2017.
14. Effect of particle size on the dielectric properties of Polyaniline doped with HCl, Kingsley Kema Ajekwene, Thomas Kurian and Honey John. International Symposium on New Trends in Applied Chemistry (NTAC -2017), Sacred Heart College and Hotel Crown Plaza, Kochi, India, 9-11 February, 2017.
15. Nonlinear optical properties of reduced graphene oxide/poly(vinyl alcohol) nanocomposites, M. N. Muralidharan, S. Mathew, A. Seema, P. Radhakrishnan and Thomas Kurian, International Symposium on New Trends in Applied Chemistry (NTAC -2017), Sacred Heart College and Hotel Crown Plaza, Kochi, India, 9-11 February, 2017.
16. Effect of carbon black and silica on the cure characteristics and mechanical properties of nitrosamine – safe natural rubber vulcanisates, Abhitha K. and Thomas Kurian, International Conference on Science and Technology: Future Challenges and Solutions (STFCS-2016), University of Mysore, during August 8-9, 2016. (Page No.338).

17. Electrical Characteristics of in-situ Reduced Graphene Oxide/Polymer Nanocomposites, M. N. Muralidharan, A. Seema, P. Radhakrishnan, Thomas Kurian, International Conference on Science and Technology: Future Challenges and Solutions (STFCS-2016), University of Mysore, during August 8-9, 2016. (Page No.293).
18. Effect of Terephthalic Acid Hydrazone synthesized from PET Bottle Wastes on the Thermo-oxidative Aging of Natural Rubber, Neena George, Abhitha K. and Thomas Kurian, International Conference on Science and Technology: Future Challenges and Solutions (STFCS-2016), University of Mysore, during August 8-9, 2016. (Page No.57).
19. N-(Pyrrolidine-1-carbithiyl)benzamide - a novel secondary accelerator in – the sulphur vulcanization of NR/SBR blends. Molice Thomas, K. Kurien Thomas and Thomas Kurian, International Conference on Science and Technology: Future Challenges and Solutions (STFCS-2016), University of Mysore, during August 8-9, 2016. (Page No.266).
20. Studies on Efficiency of Newly Synthesized Terephthalic Acid Hydrazone as an Anti-oxidant in Natural rubber Vulcanizates, Neena George and Thomas Kurian, International Conference on Advances in Polymer Technology, Kochi, India, 2016 (APT'16), February 25 – 26, 2016.
21. Non-linear Optical Characteristics of reduced grapheme oxide/thermoplastic polyurethane nano composites, M.N. Muralidharan, S. Mathew, A. Seema, P. Radhakrishnan and Thomas Kurian, International Conference on Advances in Polymer Technology, Kochi, India, 2016 (APT'16), February 25 – 26, 2016.
22. The Influence of N-Benzoyl N',N'-Pyrrolidinythiourea – A Novel Secondary Accelerator – in the Sulphur Vulcanization of NR/SBR Blend, Molice Thomas, K. Kurien Thomas and Thomas Kurian, International Conference on Advances in Polymer Technology, Kochi, India, 2016 (APT'16), February 25 – 26, 2016.
23. Nano Zinc Oxide (ZNO) in Pre-vulcanized Natural Rubber Latex: Antimicrobial, Mechanical and Swelling Characteristics, Anand K, Siby Varghese and Thomas Kurian, International Conference on Advances in Polymer Technology, Kochi, India, 2016 (APT'16), February 25 – 26, 2016.
24. Synthesis of a Macrocyclic Hydrazone Schiff base based on PET bottle waste derived terephthalic dihydrazide, Neena George and Thomas Kurian, Paper presented at the International Conference in Advances in Applied Mathematics, Materials Science and Nanotechnology for Engineering and Industrial Applications, January 7-9, 2016, at FISAT, Angamaly, India. (IC-AMMN-2K16 page 119).
25. Rheological and mechanical properties of nitrosamine safe carbon black filled natural rubber vulcanizates, Abhitha K, Thomas Kurian and L. Jayabalan, Paper presented at the International Conference in Advances in Applied Mathematics, Materials Science and Nanotechnology for Engineering and Industrial Applications, January 7-9, 2016 (110), at FISAT, Angamaly, India. . (IC-AMMN-2K16 page 110).
26. Photodgradation of Metal Stearate Incorporated Polyethylene, Zeena P. Hamza and Thomas Kurian, Paper presented at the International Conference in Advances in Applied Mathematics, Materials Science and Nanotechnology for Engineering and Industrial Applications, January 7-9, 2016 (110), at FISAT, Angamaly, India. . (IC-AMMN-2K16 page 143).
27. Effects of Ionic Groups on Elastomers, Thomas Kurian, International Conference on Contemporary Advances of Science & Technologies (IC-CAST 2015), Banaras Hindu University, Varanasi during August 7 – 9, 2015.
28. Synthesis of terephthalic dihydrazide from PET bottle waste and its value added application as latent curing agent in DGEBA epoxy adhesive formulations (Paper won the International Best Oral Presentation award and Young Scientist Award : abstract on page 216 of the Souvenir). Neena George and Thomas Kurian, Fourth International Science Congress, Udaipur, India, December 8 – 9, 2014.
29. Combined effect of bio-filler and pro-oxidant on the degradation of linear low density polyethylene, Thomas Kurian, Anna Dilfi K. F, Raghul Subin S., and Saritha G. Bhat, International Conference on Rubber, and Rubber-like Materials (ICRRM-2013), March 6-9, 2013, IIT Kharagpur, India, March 6-9, 2013.
30. Efficient Vulcanisation of Natural Rubber using Safe (non- carcinogenic) Accelerator System, , K. Abhitha, Dr. Philip Kurian, Dr. Thomas Kurian and L. Jayabalan, Third International Conference on Materials for the Future: Innovative Materials, Processes, Products & Applications, Govt. Engineering College, Thrissur. Kerala, India November 6-8, 2013.
31. Synthesis and Characterization of Nano ZnO and its effects on Latex Preservation, Thomas Kurian, Siby Varghese, and Anand K., International Rubber Conference, Kovalam, Kerala, India, 29 October to 02 November, 2012.
32. A Process for Preparation of Carbon Black/Silica/Nanoclay Master Batch from Fresh Natural rubber Latex, K.K. Sasidharan, Rosamma Alex and Thomas Kurian, International Rubber Conference (IRC 2012), Kovalam, Kerala, India, October 18 -31, 2012.

33. Investigation on Tapioca Starch – filled Low Density Polyethylene Films, Zeena P. Hamza, Anna Dilfi K. F, Raghul Subin, Thomas Kurian. and Saritha G. Bhat, International Conference on Functional Polymers, NIT Calicut, Kerala, India, January 28 – 30, 2011.
34. Influence of Dextrin on the Tensile Properties, Morphology and Biodegradation of Low Density Polyethylene, Zeena P. Hamza, Anna Dilfi K. F, Raghul Subin, Thomas Kurian. and Saritha G. Bhat, International Conference on Advancements in Polymeric Materials (APM 2011), March 25 – 27, 2011, Chennai, India.
35. Synthesis and Characterization of reprocessable ionic thermoplastic elastomers based on natural rubber and high styrene rubber, Thomas Kurian, International Conference on Recent Trends in Materials Science and Technology (ICMST), October 29 -31, 2010 at Indian Institute of Space Science and Technology, Thiruvananthapuram.
36. Thermal Properties of Partially Biodegradable LDPE/Starch Blends, Zeena P. Hamza, Anna Dilfi K. F, Julie Jose, Thomas Kurian. and Saritha G. Bhat, International Conference on Advancements in Polymeric Materials, CIPET Bhubaneswar, Orissa, India, February 20 -22, 2010, (page 81).
37. Thermal properties of partially biodegradable LDPE/Dextrin blends, Zeena P. Hamza, Anna Dilfi K. F, Julie Jose, Raghul Subin S., Thomas Kurian, and Saritha G. Bhat, International Conference on Advances in Polymer Technology-APT '10, Cochin, (Rubber Park ) India, February 26 -27, 2010, (page 99).
38. Investigations on Tapioca Starch-filled Low Density Polyethylene films, Zeena P. Hamza, Anna Dilfi K. F, Raghul Subin S., Thomas Kurian, and Saritha G. Bhat, International Conference on Functional Polymers, NIT Calicut, Kerala, January 28 – 30, 2011, (page 66).
39. Dextrin filled Low Density Polyethylene Films: Mechanical Properties, Melt Flow Indices and Water Absorption, Zeena P. Hamza, Anna Dilfi K. F, Raghul Subin S., Thomas Kurian, and Saritha G. Bhat, Second International Conference on Materials for the Future (ICMF 2011), 23 – 25 February, 2011, Thrissur, India (page 97).
40. Reprocessable Zinc Sulfonated Ionomers based on Natural Rubber, Thomas Kurian and Thommachan Xavier, International Conference on Rubber and Rubber-Like-Materials, Indian Institute of Technology, Kharagpur, India, January 8-10, 2008.
41. Biodegradable Film Grade Plastics based on LDPE and LLDPE, P. Zeena Hamza, K.F. Anna Dilfi, Thomas Kurian, and G. Saritha Bhat, International conference on Biodiversity Conservation and Management (BIOCAM 2008), Cochin, India, February 3-6, 2008 ( Page 225).
42. Novel Bio-degradable Plastics based on LDPE and LLDPE, Kurian Thomas, Anna Dilfi K.F., Hamza Zeena P., and Bhat Saritha G., Poly Char 16- World Forum on Advanced Materials, World Unity Convention Centre, Lucknow, India, 17-21 February, 2008 (Page 110).
43. Novel Bio-Plastics based on Polyethylenes, Kurian Thomas, Hamza Zeena P., Anna Dilfi K.F., and Bhat Saritha G., Poly Char 16- World Forum on Advanced Materials, World Unity Convention Centre, Lucknow, India, 17-21 February, 2008 ( Page 261).
44. Effect of amylase producing vibrios from the benthic environment on the biodegradation of low density polyethylene-starch blends, Thomas Kurian, Anna Dilfi K. F, Zeena P. Hamza, Raghul Subin, and Saritha G. Bhat, International Conference on Advances in Polymer Technology-APT '08, Cochin, India, September 25 – 27, 2008 (Page 93).
45. Carbon Black Masterbatch from Fresh Natural Rubber Latex, K.K. Sasidharan, Rosamma Alex and Thomas Kurian, International conference on Advances in Polymer Technology (APT '08), September 25 – 27, Kochi, India.
46. Reprocessable Ionic Thermoplastic Elastomer based on Natural Rubber, Thomas Kurian, and Thommachan Xavier, Asia RUBTECH EXPO'06 – Conference, Kochi, India, November 23 – 25, 2006 (Page 82).
47. *Reprocessable Ionic Thermoplastic Elastomer based on EPDM*, Thomas Kurian, International Conference on Advances in Polymer Blends, Composites, IPNS, and Gels, Macro and Nano Scales, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, India, March 21- 23, 2005 (Page 103).
48. Effect of Ionic Content on the Dynamic Melt Rheological Properties of Poly (ethylene -co-sodium acrylate) Ionomer, T.Kurian, M.Nishio, A. Nishioka, T.Takahashi and K.Koyama, International Seminar on Advances in Polymer Technology, CUSAT, Kochi, India, January 16 –17, 2004 (Page 58).
49. Comparison of the dynamic melt rheology of ionomers based on EMAA and EAA, T.Kurian, M.Nishio, A. Nishioka, T.Takahashi and K.Koyama, **Micro symposium on Soft Material, Yamagata University, Yonezawa, Japan**, March 17, 2003 (Page 29).

50. Dynamic melt rheology of ionomers based on poly (ethylene-co-acrylic acid), T. Kurian, M.Nishio, A. Nishioka, T.Takahashi and K.Koyama, **International Seminar on Advances in Polymer Technology, Cochin, India**, Dec. 12-14, 2002.
51. The novel heat fugitive ionomers based on natural rubber –DSC and DMTA studies, Thommachan Xavier, Joon Seop-Kim, Su-Hwan Kim, Jacob Samuel, and Thomas Kurian, International Seminar on Advances in Polymer Technology, Cochin, India, Dec. 12-14, 2002.
52. Effect of ionic concentrations on the dielectric properties of Zinc Sulphonated styrene-butadiene rubber ionomers, Jacob Samuel, Thommachan Xavier, Thomas Kurian, K.T.Mathew, and K.E.George, **International Seminar on Advances in Polymer Technology, Cochin, India**, Dec. 12-14, 2002.
53. Technological compatibilization of SBR/NBR blend by introducing specific interaction, Jacob Samuel, Thommachan Xavier, K. E. George, and T. Kurian; **International Conference on rubber and allied materials, New Delhi , India**, November 28 – 30, 2002.
54. Effect of plasticizers and filler on ionic thermoplastic elastomer based on EPDM, Thomas Kurian, **International Rubber Conference (IRC98), December 7 - 9, 1998, Chennai, India**, December 7- 9, 1998 ( pages 415 – 423).
55. Reprocessable ionic thermoplastic rubber based on EPDM, **International Conference on Rubbers, Calcutta, India**, Thomas Kurian; December 12 - 14, 1997 (Vol 1: 131 – 135).
56. Thermoplastic elastomer based on ionomer, T.Kurian, P.P.De, D.K. Tripathy, S.K. De, and D.G. Peiffer; **The meeting of Rubber Division, American Chemical Society, Philadelphia, U.S.A.**, May 2-5, 1995.
57. Effect of vulcanization temperature on the cure characteristics and vulcanizate properties of NR and SBR, T. Kurian, K.E George, and D.J. Francis; **International Symposium on Polymer Materials, San Sebastian, SPAIN**, August 31 – September 4, 1987 ( pages195 -197).

#### VI. LIST OF RESEARCH PAPERS PRESENTED AT NATIONAL CONFERENCES

1. Manufacture of Rubber Compounding Additives by the Chemical Recycling of Post-consumer PET Bottle Waste, Thomas Kurian and Neena George, paper presented at the IRMRA (24th) Rubber Conference and Expo, 22nd & 23rd September 2023 at Chennai on the theme of "Sustainability and Circular Economy - Challenges and Opportunity for Rubber Industry".
2. Effect of synthesis conditions on the particle size, morphology and electrical conductivities of Polyaniline doped with HCl and TSA, Kingsley Kema Ajekwene, Thomas Kurian and Honey John , National Workshop- Innovations in Nanoworld- Neoteric Vision and Emerging NanoTechnologies (INNVENT)-2017, December 13-15, 2017, Cochin University of Science and Technology, Kochi – 682 022, Kerala, India.
3. Influence of non- Carcinogenic Thiuram Sulphenamide Accelerators on the Properties of Natural Rubber Vulcanizates, Abhitha K., Thomas Kurian, and Jayabalan L., paper presented at the National Seminar on Chemistry in Cancer Research (CCR-2015), Department of Chemistry, St. Albert's College, Ernakulam, October 8 – 9, 2015.
4. Preparation and properties of natural rubber (NR) latex-corn starch crystal based bio-nanocomposites, National Seminar on Nano and Bio-Materials (NBM'15), Society of Polymer Technologists (SPOT) & Dept. of Polymer Science and Rubber Technology, CUSAT, (February 2015).
5. Novel route for synthesis of high value added terephthalic dihydrazide from pet bottle waste, Neena George\* and Thomas Kurian, Paper shortlisted for competition for the Best paper Award in Chemical Sciences, 27th Session of Kerala Science Congress, Alappuzha, 27th –29th January 2015.
6. Effect of Safe Non – Regulated Accelerators in Gum and Carbon Black Filled NR Vulcanisates, Abhitha K., Philip Kurian, Thomas Kurian and L. Jayabalan, National Seminar on Recent Advances in Polymer Technology (RAPT – 2K15), Department of Polymer Engineering, School of Technology and Applied Sciences, Mahatma Gandhi University, Kottayam, March 12 – 13, 2015.
7. Synthesis of Terephthalic Dihydrazide from PET Bottle Waste for Application as a Novel Latent Hardener for DGEBA Epoxy Adhesives, Neena George and Thomas Kurian, National Seminar on Recent Advances in Polymer Technology (RAPT – 2K15), Department of Polymer Engineering, School of Technology and Applied Sciences, Mahatma Gandhi University, Kottayam, March on 12 – 13, 2015.
8. Influence of non-carcinogenic thiuram and sulphenamide accelerators on the properties of natural rubber vulcanizates. Abhitha K, Thomas Kurian and L.Jayabalan, National Seminar on Chemistry in Cancer Research, Dept. of Chemistry, St. Alberts College, Ernakulam, October 8-9, 2015, pp.6-14.

9. Wet milling of ZnO dispersion: Optimization of process parameters, 26th Kerala Science Congress, Kerala Veterinary and Animal Sciences University (KVASU), Pookod, Wayanad, (January 2014).
10. Nano-dispersions of ZnO: Preparation characterization and stabilization, National Conference on Materials Science and Technology (NCMST 2014), Dept. of Chemistry, Indian Institute of Space Science and Technology (IIST), Valiyamala, Trivandrum, (July- 2014).
11. Industrial Applications of Natural Rubber, Thomas Kurian, National Seminar on Green Materials, Bishop Moore College, Mavelikara, India, February 27 – March 01, 2013.
12. Non – carcinogenic Cure System for Natural Rubber, Abhitha K., Philip Kurian, Thomas Kurian, and Jayabalan L., National Conference on Recent Trends in Material Science and Technology – 2013 (NCMST 2013), IIST (Valiamala) campus, Thiruvananthapuram, India, July 10 – 12, 2013.
13. Natural Rubber-A Wonderful Green Material, Thomas Kurian; Green Chemistry: Frontiers and Challenges, Department of Chemistry, NIT Calicut, India, 17– 21June, 2013.
14. Non-Carcinogenic Binary Accelerator based Vulcanisation System for Natural Rubber (Paper won the 12<sup>th</sup> Prof. K.V.Thomas Endowment National Award - 2013), K. Abhitha, Thomas Kurian, Philip Kurian, and L. Jayabalan, Novel Concepts in Computational and Supramolecular Chemistry, Sacred-Heart College, Thevara, Kochi, India, 11 - 12 December, 2013.
15. Safe Vulcanisation System for Heat Resistant Natural Rubber Products for Engineering Applications, Abhitha K., Thomas Kurian, Philip Kurian, and L. Jayabalan, **Recent Advances in Structural Engineering (RASE-2013)**, School of Engineering, Cochin University of Science & Technology, India, 13 - 15 December, 2013.
16. Mechanical, Thermal and Morphological Studies on Partially Bio- degradable and Photodegradable LLDPE-Biofiller Blends, Thomas Kurian, New Age Science and Technology for Sustainable Development and 3<sup>rd</sup> Annual Conference of Indian JSPS Alumni Association, CSIR-National Environmental Engineering Research Institute (NEERI), Nagpur, India, August 6-7, 2012.
17. Carbon Black/ Silica Master Batch from Fresh Natural Rubber Latex, (Best Paper Award), K.K. Sasidharan, Rosamma Alex, James Jacob, Thomas Kurian, and Arup K. Chandra, 21<sup>st</sup> Rubber conference , Indian Rubber Manufacturers Research Association, Mumbai, India, 20 – 21 January, 2012.
18. Biodegradation of linear low density polyethylene-starch blends by amylase producing vibrios, Anna Dilfi K. F, Neena George, Raghul Subin S., Thomas Kurian and Saritha G. Bhat, Recent Trends and the Sequels in Chemistry (RTSC 2011), 7-8 December, 2011. Kochi, India (page 25).
19. Studies on bio degradation of low density polyethylene-dextrin blends, Zeena P. Hamza, Anna Dilfi K. F, Neena George, Raghul Subin S., Thomas Kurian and Saritha G. Bhat, Recent Trends and the Sequels in Chemistry (RTSC 2011), Kochi, India (page 54).
20. Influence of Starch on the mechanical properties, morphology and biodegradation of low density polyethylene, Zeena P. Hamza, Anna Dilfi K. F, Raghul Subin, Thomas Kurian and Saritha G. Bhat, 5<sup>th</sup> National Conference on Plastic and Rubber Technology (NCPRT: POLYCON 2011), Mysore, India, (page 125).
21. Mechanical, Thermal and morphological studies on partially bio-degradable LLDPE-dextrin blends, Anna Dilfi K. F, Zeena P. Hamza, Julie Jose, Thomas Kurian and Saritha G. Bhat, **Indian Science Congress, Thiruvananthapuram, India, (Best Paper Award - Chemical Sciences)** January 3-7, 2010.
22. Biodegradable Plastics based on Linear Low Density Polyethylene , Anna Dilfi K. F, Thomas Kurian, and Saritha G. Bhat, Kerala Science Congress, Peechi, Thrissur, India, 28-31, January, 2010.
23. Industrial Applications of Natural Rubber- Opportunities and Challenges, Thomas Kurian, Seminar on Issues in Rubber Sector ( WTO Cell, Govt. of Kerala), Conference Hall of the Plantation Corporation of Kerala, Kottayam, India, 15 January 2009.
24. Automobile Tyres, Thomas Kurian, National Symposium on Polymers-Prospects, and Challenges (Polymysym'08), at NIT Calicut, Kerala, India, April 4-5, 2008.
25. Novel Reprocessable Ionic Thermoplastic Elastomers based on Natural Rubber and High Styrene Rubber, Thomas Kurian, 20th IRMRA Rubber Conference, Mumbai. India, 19 – 20 December, 2008.
26. Marketable and Modified Forms of Natural Rubber, Thomas Kurian, National seminar on Advances in Chemistry of Natural Products (CHEMSEM2006), K.K.T.M. Government College, Pullut, Kodungalloor, Kerala. India, August, 2006.

27. Ionic Elastomer based on EPDM, Thomas Kurian, Materials for the new millennium, Department of Applied Chemistry, CUSAT, Kochi, India, March 1 – 3, 2001.
28. Influence of compounding ingredients on ionomers, Thomas Kurian, Macrosem 2000, St. Albert's College, Ernakulam, India, August 23 – 25, 2000.
29. Effect of plasticizers on the properties of zinc sulfonated EPDM, Thomas Kurian, National Symposium on Advances in Polymer Technology, Dept. of Polymer Science and Rubber Technology, Cochin University of Science and Technology, Kochi, India., March 27 - 28, 1998.
30. Effect of carbon black and plasticizers on ionic thermoplastic elastomer based on EPDM, Thomas Kurian, D.Khastgir, P.P. De, D.K. Tripathy and S.K. De; National Seminar on Advances in Polymer Technology, CUSAT, Kochi, India, February 8 - 9, 1996.
31. Ionic thermoplastic elastomer based on EPDM, Thomas Kurian, D.Khastgir, P.P. De, D.K. Tripathy and S.K. De; National Rubber conference of Indian Rubber Institute, Kochi, India, November 14 - 15, 1994.
32. Ionic Thermoplastic Elastomers, Thomas Kurian, Seminar on Recent Trends in Composites, at John F. Welch Technology Centre, Bangalore, India, Oct. 30, 2000.

#### VISITS TO UNIVERSITIES ABROAD

1. **Tokyo Institute of Technology, Japan** (March 14, 2002).
2. **Shinshu University**, Department of Textile System Engineering, Faculty of Textile Science & Technology, Tokida Campus, Ueda, **Japan**. (Participated in the Japan Ionomer Conference on November 29, 2002).
3. Department of Chemistry, Faculty of Engineering, **Gifu University, Japan** (Presented a lecture entitled "Studies on Ionomers based on EPDM, NR, HSR, and EAA" on October 7, 2003)
4. **Venture Business Laboratory, Faculty of Engineering, Yamagata University**, Yonezawa, **Japan** (presented a lecture entitled "Studies on Ionomers" on November 5, 2003)
5. **Eindhoven University of Technology (TU/e), The Netherlands** (February 15 to March 1, 2004. Presented a lecture entitled "Effect of Plasticizers, and fillers on Ionomers based on EPDM" on February 20, 2004)
6. **Twente University, The Netherlands** (Presented a lecture entitled "Synthesis of Novel Ionomers based on NR, and SBR" on February 19, 2004).
7. **Kyoto University, Japan** (Presented a lecture entitled "Synthesis and Characterization of Melt Processable Ionomers based on Radiation Induced Styrene Grafted Natural Rubber" on April 19, 2010).
8. **Kyoto Institute of Technology, Japan** (Presented a lecture entitled "Industrial Applications of Natural Rubber" on April 20, 2010).
9. **Japan Advanced Institute for Science and Technology (JAIST)**, Ishikawa, **Japan** (Presented a Lecture entitled "Introduction to Natural Rubber and Synthetic Rubbers" on April 22, 2010).

#### PARTICIPATION IN TRAINING PROGRAMMES/WORKSHOPS

1. Practical training at Rubber Research Institute of India, Kottayam, Kerala, India during September 10 to November 30, 1984 and July 01 to August 08, 1986.
2. In-plant training at Apollo Tyres Ltd., Perambra, Kerala, India during June 03, 1985 to July 29, 1985.
3. Practical training at Central Institute for Plastics Engineering and Tools (CIPET), Madras (Chennai), India during 17 to 26 January, 1985.
4. Quality Improvement Programme from June 26 to July 1, 1989, at IIT Kharagpur.
5. ISTE winter school from October 11 - 24, at S.J.College of Engineering, Mysore.
6. Industrial Exposure Programme at Indian Petrochemicals Corporation Ltd., Vadodara from May 28 to June 7, 1990.
7. Short term computer course at the Computer Centre, IIT Kharagpur, from November 13 to December 15, 1995.
8. ISTE short- term course on Energy Conservation and Management, at TKM Engineering College, Quilon, May 4 - 17, 1997.
9. Short term course on Computer Aided Drafting and Design (AUTOCAD), at School of Engineering, Cochin University of Science & Technology, for six weeks from October 13, 1997.

10. Short term computer course at Social Institute of Computer Technology, Kalamassery, during January 4 - 16, 1998.
11. Six Months (Saturdays only) Course in Personality Development and Mental Health, at Pastoral Orientation Centre, Kochi, from August 1998 to January 1999.
12. Three months (Saturdays only) Advanced Course on Psychology, at Pastoral Orientation Centre, Kochi. from April to July 1999.
13. Three months (Saturdays only) advanced course on counseling, at Pastoral Orientation Center, Kochi, from April to July 2000.
14. Short-term course on Strategic Management of Technology during July 31 to August 4, 2000 at Indian Institute of Science (IISc.), Bangalore.
15. Master Trainers programme (Multimedia) conducted by Intel® during Dec. 11, 2000 to January 1, 2001 at Dishnet, Ernakulam under Intel® Teach to the Future Program.
16. One day workshop on Patent Awareness on 17 July, 2001 at Sophisticated Test and Instrumentation Centre (STIC), Kochi.
17. Workshop on Polymers in Information and Communication Technology on December 12, 2002 at the Dept. of PS & RT, CUSAT, Kochi.
18. Short-term training Programme under QIP on "Novel Studies and applications of microwave frequency radiation for science and technology of Future" during 5<sup>th</sup> to 11<sup>th</sup> December 2005 at IIT Madras, Chennai.
19. Short-term training programe on Modern Instrumental Methods of Analysis from 11 – 15 July, 2005 at Sophisticated Test and Instrumentation Centre (STIC), Kochi
20. One day Workshop on Good Laboratory Practices (GLP) on 19 January 2006, at Sophisticated Test and Instrumentation Centre (STIC), Kochi
21. AICTE sponsored National Workshop on Nano Science & Nanotechnology from May 14 – 18, 2007 at the Department of Mechanical Engineering, Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Amritapuri campus, Kollam.
22. Short-term Course on Interpersonal Communication during 13 – 18 February, 2006 at the Dept. of Humanities and Social Sciences, IIT Kharagpur.
23. DST-SERC School on "Polymer based Composites & Nanocomposites" from November 26 to December 1, 2007 at Indian Institute of Technology (IIT), New Delhi.
24. One day Workshop on "Technology Entrepreneurship Education" held on December 5, 2007 at Tiruchirappalli Regional Engineering College Science and Technology Entrepreneurs Park (trec-step), Tiruchirappalli.
25. Technopreneur 2008 Workshop on Promoting Technology Business Incubation & building Enterprises, May 17, 2008, Avenue Center, Kochi
26. Workshop on Computational Materials Science (CMS-09) during March 6 -8, 2009 at Indian Institute of Science (IISc), Bangalore.
27. NITTR (Chennai) Workshop on Workshop on Approaches for Quality Technical Teacher Education on December 09, 2009 at ToCh Institute of Science & Technology, Kochi.
28. Training Program on Research Methodology and Data analysis at IIPCAT, IGNOU Regional Centre, Kaloor, Kochi during 27 -29 June, 2010.
29. Workshop on Research Reporting and Reference Management Tools at University Library, CUSAT, Kochi on 19 March, 2014.
30. Faculty Development Programme on " Excellence in Teaching and Transforming Classrooms", November 4- 6, 2016 at the School of Legal Studies, CUSAT, Kochi -682 022.
31. Workshop on Approval Process 2017 -18, All India council for Technical Education held at the Dept. of PS & RT Auditorium, Kochi on February 05, 2017.
32. Workshop on Massive Open Online Courses (MOOC – CUSAT Course Authoring Programme) from 23.11.2017 to 24.11.2017 (organized by IIT BombayX and MOOC), Cochin University of Science and Technology, Kochi – 682 022, Kerala, India.
33. National Workshop on Innovations in Nanoworld at Inter University Center for Nanomaterials and Devices, CUSAT, Kochi during 13 – 15 December, 2017.
34. AICTE Faculty Development Programme on Student Induction at College of engineering, Munnar during 11 – 13 June, 2018.

#### **PARTICIPATION IN INTERNATIONAL CONFERENCES**

1. International Conference on Rubbers, Calcutta, India, Thomas Kurian; December 12 - 14, 1997 (presented a paper).
2. Micro symposium on Soft Material, Yamagata University, Yonezawa, Japan, March 17, 2003.

3. International Seminar on Advances in Polymer Technology, CUSAT, Kochi, India, January 16 –17, 2004 (presented a paper).
4. International Conference on Advances in Polymer Blends, Composites, IPNS, and Gels, Macro and Nano Scales, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, India, March 21- 23, 2005 (presented a paper).
5. International Educational Meet '06, February 4 – 7, 2006, Kochi, India.
6. International Conference on Natural Polymers, Bio-Polymers, Bio-Materials, their Composites, Blends, IPNs and Gels: Macro and Nano Scales (ICNP – 2007) Kottayam, India, November 19 – 21, 2007.
7. International Conference on Rubber and Rubber-Like-Materials, Indian Institute of Technology, Kharagpur, India, January 8-10, 2008 (presented a paper).
8. International Seminar on Advances in Polymer Technology, Cochin, India, February 26 – 27, 2010.
9. International Conference on Recent Trends in Materials Science and Technology (ICMST), October 29 -31, 2010 at Indian Institute of Space Science and Technology, Thiruvananthapuram (presented a paper).
10. International Conference on Futuristic Science and Technology in Frontier Areas, Thiruvananthapuram, India, August 5 -6, 2011.
11. Second International Conference on Materials for the Future (ICMF 2011), 23 – 25 February, 2011, Govt. Engineering College, Thrissur, India.
12. New Age Science and Technology for Sustainable Development, at NEERI, Nagpur, India, August 6 – 7, 2012.
13. International Conference on Rubber, and Rubber-like Materials (ICRRM-2013), March 6-9, 2013, IIT Kharagpur, India, March 6-9, 2013. (Session Chairperson; presented a paper).
14. International Conference on Contemporary Advances of Science & Technologies (IC-CAST 2015), Banaras Hindu University, Varanasi, August 7-9, 2015 .
15. International rubber Conference, Chennai, India, 1- 3 March 2016 (presented a paper).
16. International Conference on Science and Technology: Future Challenges and Solutions (STFCS-2016), University of Mysore, during August 8-9, 2016.
17. International Conference on Crystal Ball Vision on Science & Engineering for Societal Upliftment, August 7 – 8, 2017. At CSIR-National Institute of Oceanography, Goa, India.
18. Second International Conference on HRD (ICHRD'18) "Technology-Led economy: Prospects and Challenges for human Capital during March 21 – 22, 2018 at Deen Dayal Upadhyay Kaushal Kendra (DDUKK), CUSAT, Kochi, Kerala State, India.
19. International Conference on Emerging Advancement in Science and Technology & 10th India – Japan Science and Technology Conclave, September 5 – 6, 2019, New Delhi, India.
20. International Conference on Advances in Polymer Science and Rubber Technology (APSRT-2019), Indian Institute of Technology, Kharagpur, September 24-27, 2019 (Invited Speaker, Session Chairperson )
21. 11th International Conference on Advancements in Polymeric Materials (APM20), February 13 – 15, 2020, CIPET- SARP, Bengaluru, India (Invited Speaker, Session Chairperson).
22. International Conference on Biopolymers & Green Composites (BPGC 2024), October 18th, 2024, at CIPET, Kochi, Kerala State, India (Chairman, Keynote Lecture Session).
23. International Symposium on Innovative Materials for Energy and Environment (IMEE-2024), December 11- 12, 2024 at the Cochin University of Science and Technology (CUSAT). Kochi, Kerala State, India (Chairman, Plenary Session on December 12, 2024).
24. International Conference on Frontier Areas of Science and Technology (ICFAST – 2025, 15th India Japan Science Technology and Education Seminar) held at National Institute of Technology Calicut during October 10 – 11, 2025.
25. International Conference on "Biopolymers and Green Composites (BPGC 2025) – Marching Towards Sustainability", the 10th in series, during 7th & 8th November, 2025 at the CIPET: IPT – Kochi campus (Chairman, First Session on November 07, 2025).

## PARTICIPATION IN NATIONAL CONFERENCES

1. Prof. Shankarlal Memorial National Seminar, January 13, 1996, IIT Kharagpur.
2. National Symposium on Advances in Polymer Technology, Kochi, March 27 – 28, 1998.
3. National seminar on Current Trends in Macromolecular Chemistry and Technology (Macrosem 2000), St. Albert's College, Ernakulam, 23 – 25 August, 2000.
4. National seminar on Advances in Chemistry of Natural products (CHEMSEM – 2006), KKTU Govt. College, Kodungallur, January 04, 2006 (Resource Person).
5. 20<sup>th</sup> Rubber Conference, Mumbai, December 19 – 20, 2008.
6. Indian Science Congress, Thiruvananthapuram, January 3 – 7, 2010.
7. Seminar on Solid Waste Management, School of Environmental Studies, CUSAT, Kochi, March 15, 2012.
8. National Seminar on Green Materials, Bishop Moore College, Mavelikara, India, February 27 – March 01, 2013 (Resource Person).
9. National conference on Organisational Behaviour and HR Practices, Bharath Matha Institute of Management, Kochi, December 06, 2013.

## MEMBERSHIP OF PROFESSIONAL BODIES

1. *Life member ISTE*
2. *Life member of SPOT*
3. *Life Member IRI*
4. *Life Member IJAA*
5. *Member American Chemical Society (ACS)*

## NATIONAL AWARDS

1. **Best Poster Presentation Award- Scientist Category** in the field of **Engineering and Technology, 38th Kerala Science Congress**, St. Albert's College, Jan 30– Feb 02, **2026** Ernakulam Conducted by Kerala State Council for Science, Technology and Environment (Government of Kerala).
2. **Best Technical Paper Award – 2012** (*for the research group*) at the 21<sup>st</sup> Rubber Conference of the Indian Rubber Manufacturers Research Association (Govt. of India affiliated) held at Imperial Palace, Mumbai, during 20-21 January, 2012.
3. **"Apollo Tyres Best Technical Paper Award – 2008"** at the Indian Rubber Manufacturers Research Association's (affiliated to the Ministry of Commerce and Industry, Government of India) 20<sup>th</sup> Conference held during 19 – 20 December, 2008 at Mumbai.
4. **YOUMURI SHIMBUN PRIZE 2003, JAPAN**
5. **St. Albert's Award** for the best paper presented in the National Seminar on Current Trends in Macromolecular Chemistry and Technology (Macrosem 2000), sponsored by UGC and conducted at St. Albert's college, Ernakulam, August 23 – 25, 2000.
6. **First Prize in Prof. Shankarlal Memorial National Seminar competition** held at IIT Kharagpur on January 13, 1996.
7. **Best research poster award** (*for the research group*) - **Engineering Sciences**, at the **97<sup>th</sup> INDIAN SCIENCE CONGRESS**, January 2010, Thiruvananthapuram.
8. **12<sup>th</sup> Prof. K.V. Thomas Endowment National Award - 2013**(*for the research group*) at the National Seminar on Novel Concepts in Computational and Supramolecular Chemistry (11 to 12 December, 2013), Sacred-Heart College, Thevara, Kochi, India.
9. **Best Student Paper Award** (*for the research group*) at the International Conference in Advances in Applied Mathematics, Materials Science and Nanotechnology for Engineering and Industrial Applications, January 7-9, 2016 (110), at FISAT, Angamaly, India

Kochi -22  
February 12, 2026

(THOMAS KURIAN)