# Curriculum Vitae

1. ***Name*** : **Dr. SREEKALA M. S. (AvH & JSPS Fellow)**

2. ***Official Address*** : Associate Professor
School of Chemical Sciences,
Mahatma Gandhi University,
P. D. Hills P. O.,
Kottayam, Kerala – 686560, India.
Tel: 9446866088 (mob)
E-mail: sreekalams@mgu.ac.in
sreekalams@yahoo.co.in

3. ***Present Address for Communication*** : Pournami, House No.164/1,
Azad Road,
Aluva, Ernakulam (Dist.),
Kerala, India – 683 101.

4. ***Sex*** : Female

5. ***Nationality*** : Indian

6. ***Martial Status*** : Married

7. ***Date of Birth*** : May 20th 1970

8. ***Language Ability*** : English, Malayalam, Hindi, German & Japanese (Basic level)

9. ***Education***

| ***Degree*** | ***Name of University*** | ***Year of passing*** | ***Division*** |
|---|---|---|---|
| **Ph. D.** (Chemistry) | Mahatma Gandhi University | 2001 Title: ***Oil Palm Fibres: A Potential Reinforcement in Phenolic Resins*** | |
| **M. Phil.** | Mahatma Gandhi | 1995 | 'A' grade |

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|---|---|---|---|
| (Chemistry) | University | | |
| **M. Sc.** (Analytical Chemistry) | Mahatma Gandhi University | 1992 | First class |

10. ***Post Doctoral Fellowships***

| ***Fellowship*** | ***Awarded by*** | ***University in which the fellowship has undertaken*** | ***Host researcher & the area of research*** |
|---|---|---|---|
| **JSPS** | Japan Society for Promotion of Science, Japan - 2003 | Department of Mechanical Engineering, Yamaguchi University, Japan. | Prof. Koichi Goda<br>'Green' Composites |
| **AvH** (Alexander von Humboldt Research Fellowship) | Alexander von Humboldt Foundation, Bonn, Germany - *2001* | Institute for Composite Materials (IVW GmbH), University of Kaiserslautern, Germany. | Prof. Dr. -Ing. Dr. h.c. Klaus Friedrich<br>Polymer Nanocomposites |

11. ***Research Interests***

***Major area of research*** **:** Polymer Science and Technology

***Specific area of research*** **:** Polymer nanocomposites, Biopolymers-Development of fully biodegradable macro, micro and nano 'green' composites, Fibre filled polymer composites, Natural and synthetic fibre reinforced plastic composites, Polymer foams.

12. ***Research Experience (After Ph. D.)*** **:** 22 years

13. ***Guided Projects*** **:** Guided several Graduate, Post Graduate and M. Phil. Projects.

14. ***Skills*** **:** AFM, TEM, TGA, DMTA, FTIR, UV, DSC, GPC, SEM, Optical Microscopy, UTM, Rubber and Plastic Processing and Testing Machinery etc.

15. ***Teaching Experience*** **:** **Assistant Professor,** Post Graduate

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|---|---|---|---|
| | | | Department of Chemistry, Sree Sankara College, Kalady, Kerala, India (07. 02. 2011 – 06. 04. 2022)<br>**Lecturer, Department of Polymer Science and Rubber Technology, Cochin University of Science and Technology**, Kochi, Kerala, India (07. 08. 2003 – 31. 10. 2003) |
| 16. | ***Membership in Professional Bodies*** | **:** | Royal Society of Chemistry, London<br>Life member, The Indian Rubber Institute |
| 17. | ***Editor / Reviewer for International Journals*** | **:** | Editorial Board member, Materials Physics and Chemistry.<br>Reviewer-Journal of Applied Polymer Sciences, Journal of Biobased Materials and Bioenergy, Composite Interfaces, Biomacromolecules, Carbohydrate polymers, Journal of biomaterials and nanobiotechnology |
| 18 | ***Citation Index*** | **:** | 6838 |
| 19 | ***H Index*** | **:** | 32 |
| 20 | ***I10-index*** | **:** | 46 |
| 21 | ***Research Supervisor Bharathiar University, Coimbatore Part - Time Ph.D. Category - B*** | **:** | Guide ID Number : CHE-GU3173 |
| 22 | ***Research Guide*** | **:** | Mahatma Gandhi University |
| 23 | ***Date of entry into service*** | **:** | 07. 02. 2011 |
| 24 | ***Date of retirement*** | **:** | 31. 05. 2030 |
| 25 | ***Remaining Service*** | **:** | 8 years |
| 26 | ***PG Teaching experience*** | **:** | 12 years |
| 27 | ***ORCID ID:*** | **:** | 0000-0002-9357-0947 |

**Ranked among top 2% scientist's in the world (Rising Stars List) as per a subject wise analysis for the year 2019 and 2020 conducted by a team of scientists at Stanford University and Scopus.**

**Faculty Development Programme** – Attended Faculty Development Programme – STRIDE – UGC - MHRD on 'Entrepreneurship skill development'organized by Mahatma Gandhi University, Kottayam from 23-28, November 2020.

**Faculty Development Programme** – Attended 5 day Faculty Development Programme on 'How can teachers make a difference?'organized by KSHEC, Thiruvananthapuram and IQAC, S. S. College Kalady, from 26-30, May 2020.

**Faculty Development Programme** – Attended Seven day Faculty Development Programme, 'Capacity Building in Skill Development'.organized by KSHEC, Thiruvananthapuram and M. G. University, Kottayam at St. Peter's College, Kolenchery from 4-10, March 2020.

**Faculty Development Programme** – Attended Faculty Development Programme organized by KSHEC, Thiruvananthapuram at Rajagiri College of Social Sciences, Kalamasserry, Kochi from 6-10, May 2019.

**Convened an International Conference**- Acted as Convener and Chairman of the KSCSTE and OPCW supported International Conference on Advances in Material Science 'ICAMS 2018' held at Sree Sankara College, Kalady on October 24 & 25, 2018.

**Winter School** – Attended Winter School programme organized by ICAR held at ICAR–CIFT, Kochi from February 1$^{st}$ to February 21$^{st}$ 2018.

**Co-ordinated a National Seminar** on Recent Advances in Chemical Sciences 'RACS-2017' supported by KSCSTE Thiruvananthapuram held at Sree Sankara College, Kalady on December 13$^{th}$ and 14$^{th}$ , 2017.

**Refresher Course in Chemistry** – Attended five day refresher course in chemistry – **Enrich 2017** organized by Post Graduate and Reseach Department of Chemistry, Maharajas College, Ernakulam on 21. 10. 2017, 28. 10. 2017, 04. 11. 2017, 18. 11. 2017 and 25. 11. 2017.

**Convened a National Conference**- Acted as Convener and Chairman of the UGC supported National Seminar on Recent Advances in Quantum Mechanics and Computational Chemistry 'RAQC 2015' held at Sree Sankara College, Kalady on July 22, 23 & 24, 2015.

**Special Winter School** – Attended and won 'A' grade in the Special Winter School programme organized by UGC – Academic Staff College, University of Calicut held at John Matthai Centre, Aranattukara, Thrissur from November 27 to December 17, 2014.

**Special Winter School** – Attended and won 'A' grade in the Special Winter School programme organized by UGC – Academic Staff College, University of Calicut held at John Matthai Centre, Aranattukara, Thrissur from November 27 to December 17, 2013.

**Convened an International Conference**- Acted as Convener and Chairman of the KSCSTE and DRDO supported International Conference on Advances in Material Science 'ICAMS 2013' held at Sree Sankara College, Kalady on October 23 & 24, 2013.

## DETAILS OF PROJECTS AVAILED

| | Title of the project | Sanctioned from | Amount (Rs.) |
|---|---|---|---|
| 1 | Fully biodegradable sisal reinforced starch composites: Effect of fibre length on mechanical properties of the Composites. | Kerala State Council for Science,Technology and Environment, Thiruvananthapuam. (No. 01708 /SPS 64/2019/KSCSTE dated 16. 01. 2020) | 10,000/- |
| 2 | A comparative study on the properties of reinforcing phenol formaldehyde nanocomposites with Carbon Nano Tube (CNT) and Cellulose Nano Fibre (CNF) | Kerala State Council for Science,Technology and Environment, Thiruvananthapuam. (No. 009/SRSPS/2014/CSTE dated 1st April, 2016) | 30,44,400/- |

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|---|---|---|---|
| 3 | Barrier property analysis of starch/PVA blends | Kerala State Council for Science,Technology and Environment, Thiruvananthapuam. (No. 85/SPS 59/2016/KSCSTE dated 23. 09. 2016) | 7000/- |
| 4 | Biopolymer Blends – Microstructural Analysis | UGC – SWRO, Bangalore (No. MRP(S)/13-14/KLMG013/UGC-SWRO dated 15 Feb. 2014) | 1,89,000/- |
| 5 | Develoment of Pineapple Leaf Fibre (PALF) reinforced Starch biocomposites and studies on Mechanical Properties. | Kerala State Council for Science,Technology and Environment, Thiruvananthapuam. (DO No. 045/SPS/2013/CSTE) | 15,000/- |
| 6 | Development and property improvement of fully biodegradable 'Green' composites based on starch thermoplastics and natural resources : Effect of interface modifications on the properties of the composites | Ministry of science & Technology; Department of science & technology; Science and engineering research council [Fast track proposals for young scientists (2009)] | 20,00,000/- |
| 7 | Natural fibre/Polyethylene fibre reinforced polypropylene hybrid composites: the role of transcrystallisation and interfacial effects on mechanical performance | Ministry of science & Technology; Department of science & technology; Science and engineering research council [Fast track proposals for young scientists (2000-2001)] | 12,00,000/- |

## AWARDS and FELLOWSHIPS

(1) **Best paper award**: In the two day national conference on Advances in Materials Science at U. C. College, Aluva, Kerala, India, March 16$^{th}$ & 17$^{th}$ , 2012.

(2) Council of Scientific and Industrial Research (CSIR) **Senior Research Associate (Scientist's Pool Scheme)**, New Delhi, India**,** 2005.

(3) **JSPS Post-doctoral Research Fellowship** from Japan Society for Promotion of Science, Ichibancho, Chiyoda-ku, Tokyo, Japan, 2003.

(4) **ICS-UNIDO Fellowship** on Environmentally Degradable Plastics, Trieste, Italy, 2002.

(5) **Alexander von Humboldt (AvH) Post-doctoral Research Fellowship** from Alexander von Humboldt Foundation, Jean-Paul-Str. 12, Bonn, Germany, 2001.

(6) **CSIR-International Travel Grant Award:** For attending conference in Riga, Latvia.

(7) **Best paper award**: In the National Level Technical Symposium `ELASTOFEST `99`, held at Madras Institute of Technology, Anna University, Chennai, April 7&8, 1999.

(8) Council of Scientific and Industrial Research **(CSIR) Senior Research Fellowship- extended,** New Delhi, India (2000)

(9) Council of Scientific and Industrial Research **(CSIR) Senior Research Fellowship,** New Delhi, India (1996)

(10) Mahatma Gandhi University **Junior Research Fellowship,** Kottayam, Kerala, India (1995)

## RESEARCH VISITS OUTSIDE INDIA

(1) **Japan**
Delivered an invited talk in Future generation symposium Conducted by JSMS committee held at Wakayama, Japan during August 25-27 2019.

(2) **Japan**
Research collaboration under JSPS Post doctoral programme with Department of Mechanical Engineering, Yamaguchi University, Tokiwadai, Ube 755-8611, Japan, November 4, 2003 – November 3, 2005.

(2) **Germany**
Research collaboration with Institute for Composite Materials (IVW GmbH), University of Kaiserslautern, Erwin-Schrodinger-Strasse, Bldg. 58, D-67663 Kaiserslautern, Germany under Humboldt Research fellowship, September 3, 2001 – January 4, 2003

(3) **The Netherlands**
Attended and presented research papers entitled ‘High performance nanocomposites based on nanosilica and epoxy resin - A novel method to reinforce a reactive resin by nanoparticles’ and ‘Structure-Property

Relationships in Nanosilica Reinforced Polypropylene Composites: AFM and TEM Investigations', in ISPAC 2002, 15th International Symposium on Polymer Analysis and Characterization, University of Twente, Twente, The Netherlands, June 17-19, 2002.

(4) **France**
Research visit to CERMAV-CNRS, Grenoble, France in 2002.

(5) **Singapore**
Research visit to Department of Chemistry, National University Singapore, Singapore, March 23 – 24, 2001.

(6) **Penang, Malaysia**
Attended and presented a research paper entitled 'Utilisation of oil palm fibres as a potential reinforcement in phenolic resin' in USM-JIRCAS Joint International Symposium "lignocellulose - Material of the Millennium: Technology and Application", Penang, Malaysia, March 20-22, 2001.

(7) **Trieste, Italy.**
Participated in the International workshop on "Process simulation in composite materials from sintering to rapid prototyping" by ICS-UNIDO, Trieste, Italy, November 20-25, 2000.

(8) **Riga, Latvia.**
Attended and presented a research paper entitled 'Dynamic mechanical properties of oil palm fibre reinforced phenol formaldehyde composites, in the Eleventh international conference 'Mechanics of Composite Materials' - MCM 2000, June 11-15, 2000.

## LIST OF PUBLICATIONS

### Contribution to Book

*As Editor*

1. Sandhya P. K., Sreekala M. S. and Sabu Thomas (Editors) (2022), 'Phenolic Based Foams Preparation, characterization, and Applications' in the Series Gels Horizons: From Science to Smart Materials, Springer, ISSN 2367-0061 ISSN 2367-007X (electronic), ISBN 978-981-16-5236-3 ISBN 978-981-16-5237-0 (eBook) https://doi.org/10.1007/978-981-16-5237-0

2. Thomas S., Balakrishnan P., **Sreekala M. S.** (Eds.) (2018): Fundamental Biomaterials: Ceramics; eBook ISBN: 9780081022047 Paperback ISBN: 9780081022030, Publishers Elsevier

3. Thomas S., Balakrishnan P., **Sreekala M. S**. (Eds.) (2018): Fundamental Biomaterials: Polymers; eBook ISBN: 9780081021958 Paperback ISBN: 9780081021941, Publishers Elsevier

4. Thomas S., Balakrishnan P., **Sreekala M. S.** (Eds.) (2018): Fundamental Biomaterials: Metals; ISBN: 9780081022054, Publishers Elsevier

5. Thomas, S., Joseph, K., Malhotra, S. K., Goda K. and **Sreekala M. S.** (Eds.) (2013): Polymer Composites, Volume III : Biocomposites, WILEY-VCH Verlag GmbH & Co. KGaA, Germany, ISBN 978 -3-527-32980-9.

6. Thomas, S., Joseph, K., Malhotra, S. K., Goda K. and **Sreekala M. S.** (Eds.) (2013): Polymer Composites, Volume II : Nanocomposites, WILEY-VCH Verlag GmbH & Co. KGaA, Germany, ISBN: 978-3-527-32979-3 .

7. Thomas, S., Joseph, K., Malhotra, S. K., Goda K. and **Sreekala M. S.** (Eds.) (2012): Polymer Composites, Volume I : Macro and Microcomposites, WILEY-VCH Verlag GmbH & Co. KGaA, Germany, ISBN 978 -3-527-32624-2.

***As Chapter Contributor***

1. Lakshmipriya Ravindran, M. S. Sreekala, S. Anilkumar, Sabu Thomas (2022), 'Thermal Stability of Phenolic Foams' in 'Phenolic Based Foams Preparation, characterization, and Applications', Sandhya P. K., Sreekala M. S. and Sabu Thomas (Editors) Springer, ISSN 2367-0061 ISSN 2367-007X (electronic), ISBN 978-981-16-5236-3 ISBN 978-981-16-5237-0 (eBook) https://doi.org/10.1007/978-981-16-5237-0, Pages 137-153

2. P. K. Sandhya, M. S. Sreekala, Sabu Thomas (2022), 'Phenolic-Based Foams: State of the Art, New Challenges, and Opportunities' in 'Phenolic Based Foams Preparation, characterization, and Applications', Sandhya P. K., Sreekala M. S. and Sabu Thomas (Editors) Springer, ISSN 2367-0061 ISSN 2367-007X (electronic), ISBN 978-981-16-5236-3 ISBN 978-981-16-5237-0 (eBook) https://doi.org/10.1007/978-981-16-5237-0, Pages 1-14

3. Gas Permeability Through Thermosets in Transport properties of polymeric membranes (P.K. Sandhya, R Lakshmipriya and M.S. Sreekala), 2018, ISBN: 978-0-12-809884-4, Elsevier

4. Phenol Formaldehyde-Based Aerogels in Microgels synthesis, properties and applications (P. K. Sandhya, M. S. Sreekala, and Sabu Thomas). May 2018, ISBN: 978-1-53613-523-7, Nova Science Publishers

5. Balakrishnan P., Sabu Thomas, Sreekala M S. (2018) “Inert Ceramics” Fundamental Materials: Ceramics, Elsevier.

6. Balakrishnan, P., Geethamma, V. G., Sreekala, M. S., & Thomas, S. (2018). Polymeric biomaterials: State-of-the-art and new challenges. In Fundamental Biomaterials: Polymers (pp. 1-20).

7. Gopi, S., Balakrishnan, P., Sreekala, M. S., Pius, A., & Thomas, S. (2017). Green materials for aerospace industries. Biocomposites for High-Performance Applications: Current Barriers and Future Needs Towards Industrial Development, 307.

8. Balakrishnan, Preetha, and Meyyappallil Sadasivan Sreekala. "Recycling of Plastics." Recycling of Polymers: Methods, Characterization and Applications (2016).

9. Balakrishnan, P., M. J. John, L. Pothen, **Sreekala M S.**, and S. Thomas (2016). "Natural fibre and polymer matrix composites and their applications in aerospace engineering”, “Advanced composite materials for aerospace engineering: Processing, properties and applications” to be published by Woodhead Publishing Limited (Elsevier) (pp.365) http://dx.doi.org/10.1016/B978-0-08-100037-3.00012-2

10. Balakrishnan, P.,Thomas, S.,& **Sreekala M.S.**,(2016). Starch based biocomposites. Green Polymer Composites Technology: Properties and Applications(pp. 537-546). CRC Press. DOI: 10.1201/9781315371184-39 Vol 1, ISBN: 9781498715461 | 149871546X, published by CRC Press, USA.

11. Balakrishnan, P., Thomas, M. S., Pothen, L. A., Thomas, S., & **Sreekala, M. S.** (2015). Polymer Films for Packaging. In Encyclopedia of Polymeric Nanomaterials (pp. 1-8). Springer Berlin Heidelberg DOI: 10.1007/978-3-642-36199-9_406-1

12. Nair, A. B., Sivasubramanian, P., Balakrishnan, P., Kumar, A., Nair, K. A., & **Sreekala, M. S.** (2013). Environmental Effects, Biodegradation, and Life Cycle Analysis of Fully Biodegradable “Green” Composites. Polymer Composites, 515-568 DOI: 10.1002/9783527674220.ch15

13. Le Yan, **Sreekala M. S.**, and Jacob, M. (2009): Textile composites, in Natural Fiber Reinforced Polymer Composites: Macro to nano scale, Thomas, S. and Pothen L. A. (Eds.), Old City Publishing , USA and editions des archives contemporaines, France, ISBN-10: 1933153091 .

14. **Sreekala M. S.**, Friedrich, K. and Eger C. (2005): Property improvements of an epoxy resin by nanosilica particle reinforcement, in Polymer Composites – from Nano to Macro scale, Friedrich K., Fakirov S. and Zhang Z. (Eds.), Springer Science + Business Media, Inc., 233 Spring Street, New York, NY 10013, USA, 91-105pp., ISBN 978-0-387-26213-0.

15. Joseph, K., Mattoso, L. H. C., Toledo, R. D., Thomas, S., De Carvalho, L. A., Pothen, L. A., **Sreekala, M. S.** and James, B. (2000): "Natural fiber reinforced thermoplastic composites" in Natural Polymers and Agrofibres Based Composites, Brazil. CIP-BRAZIL. Embrapa. Frollini, E. (Ed.). 159-201 pp.

**Published papers**

1. Lakshmipriya Ravindran, Jesitha K, Megha P.U, S. Anilkumar, Sreekala M. S, Harikumar P S, (January 2022) Nanosilica entrapped alginate beads for the purification of groundwater contaminated with bacteria, Silicon, p. 1-14, https://doi.org/10.1007/s12633-021-01544-z, Impact Factor: 2.67

2. Lakshmipriya Ravindran, Sreekala M. S, Anilkumar, SabuThomas, (2021) Dynamic mechanical analysis, Electrical Properties and Water Sorption behaviour, of Phenol Formaldehyde nanocomposite reinforced with Multiwalled Carbon nanotubes, Materials Today Proceedings, https://doi.org/10.1016/j.matpr.2021.11.589, Impact Factor: 1.24

3. Sandhya P. K, M. S. Sreekala, Moothetty Padmanabhan and Sabu Thomas (2021), Water sorption behavior of phenol formaldehyde resin reinforcing with reduced graphene oxide and ZnO decorated graphene oxide, Journal of Polymer Research (2021) 28:191, https://doi.org/10.1007/s10965-021-02490-5, Impact Factor: 2.426

4. Pattoorpady Krishnan Sandhya, Sreekala M. S., Abderrahim Boudenne, Bertrand Garnier, Didier Rouxel, Moothetty Padmanabhan, Nandakumar Kalarikkal and Sabu Thomas (2020), Thermal and Electrical Properties of Phenol Formaldehyde Foams Reinforcing with Reduced Graphene Oxide, Polymer Composites, 41, no. 10: DOI: 10.1002/pc.25715, 4329-4339, Impact Factor: 2.010

5. Lakshmipriya Ravindran, Sreekala M. S., and Sabu Thomas (2020), Effect of MWCNT carboxylation on mechanical, thermal and morphological behaviour of phenol formaldehyde nanocomposites, Journal of Composite materials, DOI: 10.1177/0021998320964263, Impact Factor: 1.972

6. Pattoorpady Krishnan Sandhya, Sreekala M. S., Moothetty Padmanabhan and Sabu Thomas (2020), Mechanical and thermal properties of ZnO anchored GO reinforced phenol formaldehyde resin, Diamond & Related Materials, 108, 107961, DOI:

https://doi.org/10.1016/j.diamond.2020.107961, 2020, Impact Factor: 2.650

7. Pattoorpady Krishnan Sandhya, Sreekala M. S., Guijun Xian, Moothetty Padmanabhan and Sabu Thomas (2020), Enhancement in electrical conductivity and dynamic mechanical properties of resole resin with ZnO-RGO as nanofiller, Diamond & Related Materials, 108, 107934, DOI: https://doi.org/10.1016/j.diamond.2020.107934, 2020, Impact Factor: 2.650

8. Pattoorpady Krishnan Sandhya, Sreekala M. S., Guijun Xian, Moothetty Padmanabhan, Nandakumar Kalarikkal and Sabu Thomas (2020), Viscoelastic and electrical properties of RGO reinforced phenol formaldehyde nanocomposites, Journal of Applied Polymer Science, DOI: 10.1002/app.49211, 2020, Impact Factor: 2.52

9. Lakshmipriya Ravindran, Sreekala M. S., and Sabu Thomas (2019), Novel Processing Parameters for the extraction of Cellulose Nanofibres (CNF) from Environmentally benign Pineapple Leaf fibres (PALF): Structure-Property relationships, Journal of Biological Macromolecules, https://doi.org/10.1016/j.ijbiomac.2019.03.134, 131, pp858-870, Impact Factor: 5.162

10. Preetha Balakrishnanan, Sreekala M.S., Geethamma V.G., Nandakumar Kalarikkal, Vanja Kokol, Tatiana Volovad and Sabu Thomas(2019), Physicochemical, mechanical, barrier and antibacterial properties of starch nanocomposites crosslinked with pre-oxidised sucrose, Industrial Crops & Products, 130, pp 398-408, Impact Factor: 4.244

11. Sandhyaa, Sreekala M. S., Moothetty Padmanabhana, Jesitha K. and Sabu Thomas (2019), Effect of starch reduced graphene oxide on thermal and mechanical properties of phenol formaldehyde resin nanocomposites, Composites Part B Engineering, Vol. 167, pp83-92, https://doi.org/10.1016/j.compositesb.2018.12.009, ISSN: 1359-8368, Impact Factor: 7.635

12. Sandhya P K, Jiya Jose, Sreekala M. S., M Padmanabhana, Nandakumar Kalarikkal, Thomas S. (2018), Reduced graphene oxide and ZnO decorated graphene for biomedical applications, Ceramics International, DOI: https://doi.org/10.1016/j.ceramint.2018.05.143, ISSN: 0272-8842, Impact Factor: 3.640

13. P Balakrishnan, S Gopi, **Sreekala M. S.** and S Thomas (2017), UV resistant transparent bionanocomposite films based on potato starch/cellulose for sustainable packaging, Starch, DOI: 10.1002/star.201700139, ISSN: 1521-379X, Impact Factor: 2.173

14. Maya M.G., Soney C. George, Thomasukutty Jose, **Sreekala M.S.** and Thomas S. (2017), Mechanical Properties of Short Sisal Fibre Reinforced Phenol Formaldehyde Eco-Friendly Composites, Polymers from Renewable Resources, 8(4), pp27-42, Impact Factor: 1.290

15. Preetha Balakrishnan, **Sreekala M. S**., Matjaz Kunaver, Miroslav Huskic and Thomas S. (2017), Morphology, transport characteristics and viscoelastic polymer chain confinement in nanocomposites based on thermoplastic potato starch and cellulose nanofibres from pineapple leaf, Carbohydrate Polymers, DOI: dx.doi.org/10.1016/j.carbpol.2017.04.017, Impact factor: 6.230

16. Swapna V.P., Ranimol Stephen, Greeshma T., Sharan Dev C. and **Sreekala M. S.** (2014), Mechanical and swelling behavior of green nanocomposites of natural rubber latex and tubular shaped halloysite nano clay, Polymer Composites, DOI: 10.1002/pc.23217, ISSN: 1548-0569, Impact factor: 2.010

17. Arun S., Ajith Kumar K. A. and **Sreekala, M. S.** (2012), Fully biodegradable potato starch composites : Effect of macro and nano fibre reinforcement on mechanical, thermal and water sorption characteristics, International Journal of Plastic Technology, ISSN 0972-656X, DOI 10.1007/s12588-012-9026-4, Impact Factor: 1.38

18. Ajith Kumar K. A., **Sreekala, M. S.** and Arun S. (2012) : Studies on properties of Bio-composites from Ecoflex/Ramie fabric - Mechanical and barrier properties, Journal of Biomaterials and Nanobiotechnology, 3, pp 396-404, Impact Factor: 1

19. Krasowska, K., Brzeska J., Rutkowska M., Janik H., **Sreekala, M. S.**, Goda K., and Thomas S. (2010) : Environmental degradation of ramie fibre reinforced biocomposites, Polish J. of Environ. Stud., 19 (5), pp 937-945, Impact Factor: 1.383

20. Joseph, S., **Sreekala, M. S.**, and Thomas, S. (2008) : Effect of chemical modifications on the thermal stability and degradation of banana fibre and banana fibre reinforced phenol formaldehyde composites, Journal of Applied Polymer Science, 110 (4), pp 2305 – 2314, Impact Factor: 2.52

21. Joseph, S., **Sreekala, M. S.**, Koshy, P. and Thomas, S. (2008) : Mechanical properties and water sorption behaviour of phenolformaldehyde hybrid composites reinforced with banana fibre and glass fibre, Journal of Applied Polymer Science, 109(3), pp 1439-1446, Impact Factor: 2.52

22. **Sreekala, M. S.**, Goda, K., and Devi, P. V. (2008) : Sorption characteristics of water, oil and diesel in cellulose nanofiber reinforced corn starch resin/ramie fabric composites, Composite Interfaces, 15 92-3), pp281-291, Impact Factor: 2.32

23. Goda, K., **Sreekala, M. S.**, Gomes, A., Kaji, T. and Ohgi J. (Dec. 2006) : Improvement of plant based natural fibers for toughening green composites- Effect of load application during mercerization of ramie fibers, Composites Part A: applied science and manufacturing, 32(12), 2213 – 2220, Impact Factor: 6.44

24. **Sreekala, M. S.**, Lehmann, B., Rong, M. Z. and Friedrich, K. (Aug. 2006): Nanosilica reinforced polypropylene composites: Microstructural analysis and crystallization behaviour, International Journal of Polymeric Materials, 55 (8), 577 – 594, Impact Factor: 1.982

25. Friedrich, K., **Sreekala, M. S.** and Lehmann, B. (2006) : Microstructural analysis of nanosilica reinforced polypropylene composites, Acta Materiae compositae Sinica, 23 (1), 44-50. (In Chinese), Impact Factor: 0.66

26. Nakamura, R., **Sreekala, M. S.**, Jouyou, H. and Goda, K. (2005) : Creation of plasticity in textile green composites using ramie woven fabrics, International Journal of Plastics Technology, 9, 406 – 415. Impact Factor: 1.38

27. **Sreekala, M. S.**, Groeninckx, G. and Thomas, S. (2005) : Dynamic mechanical properties of oil palm fibre/phenol formaldehyde and oil palm/glass hybrid phenol formaldehyde composites, Polymer Composites, 26 (3), 388-400, Impact Factor: 2.010

28. **Sreekala, M. S.**, Kumaran, M. G., Geethakumariamma M. L. and Thomas, S. (2004) : Environmental effects in oil palm fibre reinforced phenol formaldehyde composites: Studies on thermal, moisture and high energy radiation effects, Advanced Composite Materials, 13 (3-4), 171-198, Impact Factor: 1.88

29. Mangal, R., Saxena, N. S., Joshi, G. P., **Sreekala, M. S.** and Thomas, S. (2003) : Measurement of effective thermal conductivity and thermal diffusivity for assessing the integrity of fiber to matrix bond in natural fiber composite, Indian Journal of Pure and Applied Physics, 41 (9): 712-718, Impact Factor: 0.653

30. Singh, K., Saxena, N. S., **Sreekala, M. S.** and Thomas, S. (2003) : Temperature dependence of the thermal conductivity and thermal diffusivity of treated oil-palm-fiber-reinforced phenol formaldehyde

composites, Journal of Applied Polymer Science, 89 (13): 3458-3463, Impact Factor: 2.52

31. Mangal, R., Saxena, N. S., Joshi, G. P., Singh, G. P., **Sreekala, M. S.** and Thomas, S. (2003) : Crystallization kinetics of pineapple leaf fiber reinforced phenol formaldehyde composites, Indian Journal of Pure and Applied Physics, 41 (6): 470-473, Impact Factor: 0.653

32. Agarwal, R., Saxena, N. S., Sharma, K. B., Thomas, S. and **Sreekala, M. S.** (2003) : Temperature dependence of effective thermal conductivity and thermal diffusivity of treated and untreated polymer composites, Journal of Applied Polymer Science, 89 (6): 1708-1714, Impact Factor: 2.52

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51. Agrawal, R., Saxena, N. S., Sharma, K. B., **Sreekala, M. S.** and Thomas, S. (1999) : Thermal conductivity and thermal diffusivity of oil palm fiber reinforced binary phenol formaldehyde composites, Indian Journal of Pure and Applied Physics, 37, 865-869, Impact Factor: 0.653

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53. **Sreekala, M. S.**, Thomas, S. and Neelakantan, N. R. (1996/7) : Utilization of short oil palm empty fruit bunch fibre as a reinforcement in phenol formaldehyde resins: Studies on mechanical properties, Journal of Polymer Engineering, 16(4), 265-294, Impact Factor: 1.126

54. **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. (1997) : Oil palm fibres: morphology, chemical composition, surface modification and mechanical properties, Journal of Applied Polymer Science, 66, 821-835, Impact Factor: 2.52

**Papers published / presented in conferences**

1. Delivered an invited talk on 'Natural Fibres – A potential boireinforcement in polymers for fibre reinforced plastic (FRP) structures- An overview' in 'US 2020 Partnership Workshop on FRP Materials and Sustainable Structures' Conducted by Birla Institute of Technology & Science, Pilani, Pilani Campus on March 4, 2022.

2. Delivered an invited talk on 'Properties of bionanocomposites - Starch a potential replacement for synthetic polymer' and chaired a session in 'International Online Conference on Advanced Nano Materials ICAN 2021 (AICERA 2021)' Conducted by Amal Jyothi College of Engineering, Kottayam during December 14-16, 2021.

3. Delivered an invited talk on ‘Starch based Bionanocomposites’ in ‘Future generation symposium’ Conducted by JSMS committee held at Wakayama, Japan during August 25-27, 2019.

4. ‘Organised and convened an International Conference on Advances in Materials Science ICAMS2018’ at Sree sankara College Kalady from October 24 to 25, 2018.

5. Delivered an Invited talk entitled “Emerging Biomaterials-properly improvements in starch and cellulose based nanosytsems” in the International Conference on Biomaterials for tomorrow B4T 2018 held from 7-9 January 2018 at Kochi, Kerala, India.

6. Delivered an Invited lecture entitled “Properties of polymer nanocomposites” in the seminar organized under UGC SAP DRS II in Department of Polymer Science and Rubber Technology” CUSAT, Kochi, Kerala, India on15.03.2016

7. Delivered an Invited talk entitled “Structure - property relationships in polymer nanocomposites” in the International Conference on Advances in Applied Mathematics Materials Science and Nanotechnology for Engineering and Industrial Applications” IC-AMMN-2K16 held from 7-9 January 2016 at Federal Institute of Science and Technology, Angamaly, Kerala, India.

   **Best Poster Award** – Preparation and characterization of cellulose nanocrystals from Pineapple leaf : Reuse of agricultural residue, Preetha Balakrishnan, Sreekala M. S. and Sabu Thomas.

8. Served as a Resource person in UGC-sponsored National Seminar on “Emerging Trends in Nanomaterials” held at Sree Sankara Vidyapeetom College, Valayanchirangara, Kerala, on 9th and 10th July 2015.

9. Delivered a Plenary Lecture entitled “ Stach – A potential Thermoplastic Biopolymer” in “Biopolymes and Green Composites – Emerging Science & Technology” (BPGC 2014), held at Centre for Biopolymer Science & Technology (CBPST) – A unit of CIPET, Kochi, India on 14th November 2014.

10. Delivered an invited talk in the First World Conference on Fracture and Damage Mechanics, Fracture 2014, held at Mahatma Gandhi University, Kottayam, Kerala, India during August 9, 10 & 11, 2014.

11. Served as a Resource person in the International Women’s day celebrations at St. Xaviers College for Women, Aluva and delivered a talk on ‘Women Empowerment in Science and Technology’ on 7$^{th}$ March 2014.

12. Organised and convened an 'International Conference on Advances in Materials Science ICAMS2013' at Sree sankara College Kalady from October 23 to 24, 2013.

13. Inaugurated the Chemistry Association of St. Xaviers College for Women, Aluva and delivered a talk on 'Emerging fields in Polymer Research' on 02. 09. 2013.

14. Served as a Resource person in the UGC-sponsored National Seminar on 'Green Chemistry and Environmental Conservation' held at Morning Star College, Angamaly, Kerala, India on 18th and 19th July 2013.

15. Attended "Faculty Development Programme" held at Newman College, Thodupuzha, Kerala on 17$^{th}$ & 18$^{th}$ May 2013 in association with Kerala State Higher Education Council, Thiruvananthapuram.

16. ***Best Paper Award*** : For presentation of research paper on polymer nanocomposites in the session 'Nanomaterials' in the two day National Conference on Advances in Materials Science : Macro to nano Scales at U. C. College, Aluva, Kerala, India from 16$^{th}$ to 17$^{th}$ March 2012.

17. Presented a research paper on Bionanocomposites in the second International Conference on Nanomaterials – Synthesis, characterization and application (ICN-2012) at Mahatma Gandhi University, Kottayam, Kerala, India from 12$^{th}$ – 15$^{th}$ January 2012.

18. Presented a research paper on Biopolymers in the 10$^{th}$ National Seminar on 'Recent Trends and the sequels in chemistry (RTSC – 2011) at S. H. College, Thevara, Kochi, Kerala, India on 7-8 December 2011.

19. Presented a research paper on Bionanocomposites in UGC sponsored National Seminar on 'Emerging Trends in Nanotechnology', 29-30 September 2011 at B. K. College, Amalagiri, Kottayam, Kerala, India.

20. Participated in the two day ' Curriculam Workshop' held at Mahatma Gandhi University from 20$^{th}$ June to 21$^{st}$ June 2011.

21. ***Organised and co-ordinated a one day workshop*** on 'Hand made paper making and its possibilities' on 11$^{th}$ March 2011 at Sree Sankara College, Kalady, Ernakulam, Kerala, India.

22. Arun S., and **Sreekala, M. S.** : Mechanical and water sorption characteristics of potato starch-based Green Composites, UGC Sponsored National Seminar on Quantum Chemistry and Nanotechniques, Post Graduate Department of Chemistry, S. N. M. College, Maliankara, Kerala, India, November 19- 20, 2009.

23. Aiswaria, P., and **Sreekala, M. S.** : Studies on the mechanical and water sorption characteristics of potato starch-based cellulose nanofibre/ramie fabric composites, National Seminar on Current Advances in Chemical Science, Department of Chemistry, S. H. College, Thevara, Kochi, Kerala, India, November 26- 27, 2008.

24. **Sreekala, M. S.** : Development and property improvements in Fully biodegradable 'Green' Bio-nano Composites, 20th Kerala Science Congress, Thiruvananthapuram, Kerala, India, January 28-31, 2008.

25. **Sreekala, M. S.** : Dept. of Polym. Sci. &Rubb. Technol., Cochin University of Science and Technology, Workshop on "Emerging trends in polymer applications", CUSAT, Kochi, January 4, 2008.

26. **Sreekala, M. S.** : Properties of fully biodegradable cellulose nanofiber reinforced corn starch resin / ramie fabric 'green' composites, ICNP- 2007, International Conference on Natural Polymers, Institute of Macromolecular Science and Engineering, Kottayam, Kerala, India, November 19- 21, 2007.

27. Krasowska, K., Brzeska, J., Janik, H., Barczak, M. , **Sreekala, M. S.** and Rutkowska, M. : Environmental degradation of Ramie fibre reinforced biocomposites, 13th International Conference for Renewable Resources and Plant Technology, Narossa 2007, Poznan, Poland, June 18-19, 2007

28. **Sreekala, M. S.** : Crystallisation behaviour of nanosilica reinforced polypropylene composites, ICBC 2005, International Conference on Advances in Polymer Blends, Composites, IPNs and Gels : Macro to Nano Scales, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India, March 21-23, 2005.

29. Goda, K., **Sreekala, M. S.**, Gomes, A., Kaji, T. and Ohgi, J. : Improvement of plant based natural fibers for toughening green composites - Effect of load application during mercerization of ramie fibers, Joint Conference, The 11th US-Japan Conference on Composite Materials and The 7th International Conference on Textile Composite Proceedings, Yamagata University, Yonezawa, Yamagata, Japan, September 9-11, 2004.

30. Goda, K., Ohgi, J., Kaji, T. and **Sreekala, M. S.** : Effect of load application during mercerisation on mechanical properties of ramie fibers, The Sixth China-Japan-US Joint Conference on Composites Proceedings, Chongqing, China, 21st – 23rd June, 2004.

31. Kaji, T., Gomes, A., **Sreekala, M. S.**, Goda, K. and Ohgi, J. : Deformation and fracture behaviour of mercerized ramie fibers, JCOM: JSMS Composites 33, Campus plaza, Kyoto, Japan, March 17-19 , 2004.

32. **Sreekala, M. S.** and Thomas, S. : Development and Property Improvements of Oil Palm Fibre Reinforced Phenolic Composites, Proceeding of the Second International Workshop on “Green” Composites IWGC-2, Tokiwa Campus, Ube, Yamaguchi University, Japan, January 14 - 16, 2004.

33. **Sreekala M. S.**, Friedrich K. and Eger C. : Property improvements in nanosilica reinforced epoxy composites – A novel method to reinforce a reactive resin by nanoparticles, 1st International workshop on polymers and composites at IVW Kaiserslautern: Invited Humboldt-Fellows and Distinguished Scientists, University of Kaiserslautern, Kaiserslautern, Germany, May 22–24, 2003.

34. **Sreekala M. S.**, Friedrich K. and Eger C. : High performance nanocomposites based on nanosilica and epoxy resin - A novel method to reinforce a reactive resin by nanoparticles, ISPAC 2002, 15th International symposium on polymer analysis and characterization, University of Twente, Twente, The Netherlands, June 17-19, 2002.

35. **Sreekala M. S.**, B. Lehmann, M. Z. Rong and Friedrich K.: Structure-Property Relationships in Nanosilica Reinforced Polypropylene Composites: AFM and TEM Investigations, ISPAC 2002, 15th International symposium on polymer analysis and characterization, University of Twente, Twente, The Netherlands, June 17-19, 2002.

36. **Sreekala, M. S.** and Thomas, S. : Properties of oil palm fibre reinforced phenol formaldehyde composites, Proceeding of the 4th International wood and natural fibre composites symposium, Kassel, Germany, April 10-11, 2002.

37. **Sreekala, M. S.** and Thomas, S. : Utilisation of oil palm fibres as a potential reinforcement in phenolic resin, Proceeding of the USM-JIRCAS Joint International symposium "lignocellulose - Material of the Millennium: Technology and Application", Penang, Malaysia, March 20-22, 2001.

38. **Sreekala, M. S.** and Thomas, S. : Accelerated weathering effects of oil palm fibre reinforced phenol formaldehyde composites, Proceeding of the ACUN-3, International composite conference "Tehnology Convergence in Composite Applications", Ed. Sri Bandyopadhyay, Sydney, Australia, February 5-9, 2001.

39. **Sreekala, M. S.** : Composite industry in India: Current Status, ICS-UNIDO workshop on "Process simuliation in composite matrerials from sintering to rapid prototyping", Trieste, Italy, November 20-25, 2000.

40. Thomas, S., George, S. C., Johnson T. and **Sreekala M. S**. : The role of carbon black/rubber interaction on transport properties, Proceeding of the Third International conference on carbon black, Ed. Donnet, J. B., Mulhouse, France, October 25-26, 2000.

41. **Sreekala, M. S.**, Geethamma, V. G. and Thomas, S. : Environmental Effects in Oil Palm Fibre Reinforced Phenol Formaldehyde Composites, Proceedings of the international conference, ADCOMP, Bangalore, India, 2000.

42. **Sreekala, M. S.**, Kumaran, M. G., Groeninckx, G. and Thomas, S. : Dynamic mechanical properties of oil palm fibre reinforced phenol formaldehyde composites, Proceedings of the Eleventh international conference 'Mechanics of Composite Materials' - MCM 2000, Riga, Latvia, June 11-15, 2000, P.191.

43. **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. : Effect of chemical modifications on the mechanical performance of oil palm fibre reinforced phenol formaldehyde composites, Proceedings from the Third International Symposium on Natural Polymers and Composites – ISNaPol/2000, Sao Polo, Brazil, May 14-17, 2000, P. 349.

44. **Sreekala, M. S.** :Influence of fibre surface modifications on the mechanical performance of oil palm fibre reinforced PF composites, Proceedings of the twelfth Kerala Science Congress, Kumily, Kerala, January 27-29, 2000, P. 708.

45. **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. : Effect of interfacial interactions on the mechanical performance of oil palm fibre reinforced phenol formaldehyde composites, Proceedings of the 9$^{th}$ Swadeshi science congress, Kollam, Kerala, November 5$^{th}$ – 7$^{th}$ , 1999.

46. **Sreekala, M. S.** and Thomas, S. : Mechanical performance of oil palm-glass hybrid fibre/PF composites : Improved interactions and hybrid effect, Proceedings of the polymer processing society, Fifteenth annual meeting, The Netherlands, May 31-June 4, 1999.

47. ***Best Paper Award :*** **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. : 'Oil Palm fibre reinforced Phenol Formaldehyde composites for high impact applications: Influence of fibre surface modifications on the mechanical performance', Proceedings of the National Level Technical Symposium `ELASTOFEST `99`, held at Madras Institute of Technology, Anna University, Chennai, April 7&8, 1999.

48. **Sreekala, M. S.**, Kumaran M. G. and Thomas, S. : Dynamic Mechanical Relaxation Properties of Oil Palm Fibre/Phenol Formaldehyde and Oil Palm-Glass Hybrid Fibre/Phenol Formaldehyde Composites, Proceedings of the National seminar on polymers for the new millennium, held at Chennai, March 25 & 26, 1999.

49. **Sreekala, M. S.** : Short Oil Palm Empty Fruit Bunch fibre as a reinforcement in PF resin: Studies on Mechanical Performance, Proceedings of the 86th Session of the Indian Science Congress held at Chennai, Jan. 3-7,1999.

50. **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. : Cost effective utilization of oil palm fibres as reinforcement in composite materials: Surface modifications and mechanical performance, Proceedings of the International Conference on Polymers beyond AD 2000, held at New Delhi, Jan.1999, P.564.

51. **Sreekala, M. S.**, Kumaran M. G. and Thomas, S. : Impact properties and fractography of surface modified oil palm fibre reinforced phenol formaldehyde composites, Proceedings of the national symposium on advances in polymer technology, APT '98, held at Cochin University of Science and Technology, Kochi, March 27-28, 1998, P.18.

52. **Sreekala, M. S.**, Kumaran, M. G. and Thomas, S. : Cost effective composite materials from Oil Palm fibre and Phenol Formaldehyde resin, Proceedings of the IUPAC International symposium on Advances in Polymer Science and Technology, held at CLRI, Chennai, India, Jan 5-9,1998, P.724.

53. **Sreekala, M. S.** : Short Oil Palm Empty Fruit Bunch fibre : A potential reinforcement in Phenol Formaldehyde resin, Proceedings of the Xth Kerala Science Congress held at Kozhikode, Kerala, India, Jan. 2-4, 1998, P.430.

54. **Sreekala, M. S.**, Thomas, S. and Neelakantan, N. R. : Mechanical properties of short oil palm empty fruit bunch fibre reinforced phenol formaldehyde composites, Proceedings of the International Conference on Fibre Reinforced Structural Plastics in Civil Engineering, Tata Mc Graw Hill Publishers, IIT Madras, India, Dec. 18-20, 1995, P.53.