



**Dr. O.L. SHANMUGASUNDARAM, PROFESOR, TEXTILE TECHNOLOGY**

**Name** : SHANMUGASUNDARAM O.L

**Designation** : Professor

**Department** : Textile Technology

**Joining Date** : 30.05.2015

**Qualification** : B.Tech., M.Tech., Ph.D.,  
Ph.D., Anna University  
M.Tech. (Textile Tech.), Alagappa College of Tech, Anna Univ. Campus, Chennai.  
B.Tech. (Textile Tech.), Bannari Amman Institute of Technology, Sathy.  
D.T.P (Textile Processing), EIT Polytechnic College, Kavindapadi

**Nature of Association** : Regular  
**(Regular/Contractual/Adjunct)**

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## Research Profile

1. Development and characterization of healthcare and hygiene textiles
2. Application of nanotechnology in the development of wound dressing materials
3. Development of medical textiles using wealth out of waste materials
4. Dyeing of textile materials using pigment from algae

## **Research Supervisor**

: Recognized as Research Supervisor in Faculty of Technology under

- (i) Anna University, Chennai
- (ii) Bharathiar University
- (iii) No. of Ph.D. scholars completed : 03
- (iv) Presently Guiding 1 Ph.D. Scholar

## **Ph.D. Research Scholar Details**

S.No.	Title of Thesis	Name of the Student	University	Supervisor/ Jt. Supervisor	Status
1	Studies on cyclodextrin treatment using polycarboxylic acid for diammonium phosphate flame retardant finishing	V. Sivakumar	Anna University	Jt. Supervisor	Completed
2	Dimensional stability of tencel knitted and woven fabrics in comparison with cotton	K.A. Ramasamy	Anna University	Jt. Supervisor	Completed
3	A study of yarn and fabric properties of tencel bamboo blends	G. Karthikeyan	Anna University	Jt. Supervisor	Completed
4	Development of wound healing bandages using nano herbs	S. Manjula	Bharathiar University	Supervisor	Ongoing

## Journal Publications

### International Journals

1. Sivakkumar Veerappagounder, G Nalankilli, and **O L Shanmugasundaram.**, Study on properties of cotton fabric incorporated with diammonium phosphate flame retardant through cyclodextrin and 1,2,3,4-butane tetracarboxylic acid binding system *Journal of Industrial Textiles*, Vol. 45(6) 1204–1220, 2016.
2. Ramasamy, K.A., Nalankilli, G. & **Shanmugasundaram, O.L.**, Properties of cotton, tencel and cotton/tencel blended ring- spun yarns, *Indian Journal of Fibre & Textile Research*, 39 (3),322-325, 2014.
3. Karthikeyan, M., Ramachandran, T. and **Shanmugasundaram, O.L.**, Synthesis, characterization, and development of thermally enhanced cotton fabric using nanoencapsulated phase change materials containing paraffin wax, *The Journal of the Textile Institute*, Vol. 105, No. 12, 1279–1286, 2014.
4. Karthikeyan, M., Ramachandran, T. and **Shanmugasundaram, O.L.**, Nanoencapsulated phase change materials based on polyethylene glycol for creating thermo regulating cotton, *Journal of Industrial Textiles*, vol. 44 no. 1 130-146, 2014. (Impact factor: 1.308)
5. **Shanmugasundaram, O.L.**, and Mahendra Gowda, R.V., Development and characterization of cotton, organic cotton flat knit fabrics coated with chitosan, sodium alginate, calcium alginate polymers, and antibiotic drugs for wound healing, *Journal of Industrial Textiles*, 42(2), 156-175, 2012. (Impact factor: 1.308)
6. **Shanmugasundaram, O.L.**, and Mahendra Gowda, R.V., Development and characterization of polylactic acid bandage coated with biopolymers and drugs for wound healing, *The Journal of the Textile Institute*, 103(5), 508-516, 2012.
7. Karthikeyan.M, Ramachandran, T., **Shanmugasundaram, O.L.**, Balasubramaniam, M and Ragavendra, T., Microencapsulation of PCMs in Textiles: A review, *Journal of Textile and Apparel Technology and Management*, 7(3), 1-10, Spring 2012.
8. **Shanmugasundaram, O.L.**, and Mahendra Gowda, R.V., Development and characterization of bamboo gauze fabric coated with polymer and drug for wound healing, *Fibers and Polymers*. 12(1), 15-20, (2011).
9. **Shanmugasundaram, O.L.**, and Mahendra Gowda, R.V., Development and characterization of bamboo and organic cotton fibre blended baby diapers, *Indian Journal of Fiber and Textile Research*. 35(3), 201-205 (2010).
10. **Shanmugasundaram, O. L.**, Giridev, V. R., and Madhusoothanan, M., Suseela Rajkumar., Drug Release and Antimicrobial Studies on Chitosan Coated Cotton Yarns, *Indian Journal of Fiber and Textile Research*. 31(4), 543-547 (2006).

### National Journals

1. Ramasamy, K.A., Nalankilli, G. & **Shanmugasundaram, O.L.**, Dimensional stability of cotton, cotton/tencel and tencel weft knitted fabrics-spirality and fibrillation, *Journal of the Textile Association*, Vol. 77 (2) 99-104, (2016).
2. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Improving the flame retardant finishing using citric acid and cyclodextrin.: part-II, *Asian dyer*, 11 (6), 51-55, 2015.

3. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Improving the flame retardant finishing using citric acid and cyclodextrin,: part-I, *Asian dyer*, 11 (5), 51-56, 2014.
4. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Study on properties of cotton fabric incorporated with diamonium phosphate flame retardant through cyclodextrin and citric acid binding system, *Journal of the Textile Association*, 75 (4), 274-282, 2014.
5. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Study on cyclodextrin treated polyester material, *International Journal of Latest Research in Science and Technology*, 3 (2) 128-131, 2014.
6. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Cyclodextrin Treatment To Improve The Functional Property of P/C Blended Material, *International Journal of Engineering Research & Technology*, 3 (4), 1062-1066, 2014. (**Impact Factor: 1.76**)
7. Sivakkumar, V., Nalankilli, G., **Shanmugasundaram, O.L.**, Study on Physical Properties of Butane Tetra Carboxylic Acid (Btca) & Beta Cyclodextrin (Cd) Treated Lyocell Fabric, *International Journal of Engineering Research & Technology*, 3 (3), 2126-2130, 2014.

#### Funded Project/Conference/Seminar/FDP Proposals Applied and Sanctioned

Seminar/Conference R&D Projects	Title of the Project / Conference/Seminar	Name of Funding Agency	Applied Date	Date of Conferene	Amount sanctioned with Date
National Conference	Impact of Nanotechnology in the arena of Fibre Manufacturing and Textile finishing for the Production of Multi Functional Fibers/Fabrics for High-End Applications	Science Engineering Research Board (SERB), New Delhi. & Council of Scientific and Industrial Research, (CSIR), New Delhi.	November 2016	30-31 March 2017	<b>Rs.1,00000/-</b> 13-12-2016  <b>Rs.40,000/-</b> 08-12-2016
National Conference	Impact of Research and Development in Biotechnology for Sustainable Textile Production	Department of Biotechnology, Govt. of India, New Delhi	September 2014	24-25 December 2014	<b>Rs.50,000/-</b> 21-10-2014
National Seminar	Application of Nanotechnology and Advanced Biotechnology in Textile Effluent Treatment for Wastewater Reuse in Textile Industry	Council of Scientific and Industrial Research, (CSIR), New Delhi.	February 2012	August 2012	<b>Rs.30,000/-</b> April 2012

## Paper Presented in Conferences & Publications

### International Conferences

1. **Shanmugasundaram, O.L** and M. Ramkumar., Preparation and characterization of human hair keratin/alginate coated cotton gauze material for bio-medical applications, International Conference on Functional Materials at **Indian Institute of Technology, Kharagpur (IITKGP)**, 12-14<sup>th</sup> December 2016.
2. **Shanmugasundaram, O.L** and M. Ramkumar., Development and characterisation of keratin/chitosan blended polymer coated cotton fabric as wound dressing material, International Conference on Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications (ICM-2016) & **MG University, Kottayam**, 13-15<sup>th</sup> May 2016.
3. **Shanmugasundaram, O.L**, Development and characterization of mosquito repellent cotton fabric coated with natural and chemical agents, International Conference on Technical Textiles and Nonwovens, **Indian Institute Technology (IIT), New Delhi**, 6-8<sup>th</sup> November, 2014
4. **Shanmugasundaram, O.L and Mahendra Gowda R.V.**, Development of Medical Textile Products using Bamboo Fibre, International Conference Emerging Trends in Traditional and Technical Textiles, **National Institute of Technology, Jalandhar**, 11-12<sup>th</sup> April, 2014.
5. Karthikeyan M, Ramachandran T. and **Shanmugasundaram O.L.**, Preparation and characterization of Nano-capsules Containing Paraffin Wax as Phase Change Material and Application to Cotton Fabric, Recent Advances in Textile and Electrochemical Sciences, **Alagappa University, Karaikudi**, 21-23<sup>rd</sup> March, 2013
6. **Shanmugasundaram, O.L and Mahendra Gowda R.V.**, Development and Characterization of Drug Releasing Polyester Suture, Advances In Textiles, Machinery, Nonwoven and Technical Textiles, **Kumaraguru College of Technology, Coimbatore**, Dec. 2011.
7. **Shanmugasundaram, O.L and Mahendra Gowda R.V.**, Development and Characterization of Bamboo Gauze Fabric coated with Polymers for Wound Healing, 39<sup>th</sup> Textile Research Symposium & **Indian Institute of Technology,(IIT) New Delhi**, Dec. 2010.
8. **Shanmugasundaram O.L.** and R.V. Mahendra Gowda., Specialty Medical Fibers and their Applications, Technical Textiles & Nonwovens & **Indian Institute of Technology,(IIT) New Delhi, November 2008.**
9. **Shanmugasundaram O.L.**, Application of Bio and Nano Technology in Textile Industries, **Advances in Fibrous Materials Hotel Jenny Club, Coimbatore**, August 2006.
10. **Shanmugasundaram O.L.**, M. Madhusoothanan, V.R. Giridev., Drug Release and Antimicrobial Studies on Chitosan-Coated Cotton Yarns, The Fiber Society 2005 Fall Annual Meeting and Technical Conference, **New Jersey Institute of Technology, Newark, New Jersey, USA** 17–19<sup>th</sup> October 2005.

### National Conferences

1. M. Ramkumar, S. Haribaskar & **O.L. Shanmugasundaram**, Development of Wound Dressing Materials Using Human Hair Derived Keratin, Silver and Gold Nanoparticles, Impact of Nanotechnology in the arena of Fibre Manufacturing and Textile Finishing for the Production of Multi Functional Fibers/Fabrics for High-End Applications, **K.S.Rangasamy College of Technology, Tiruchengode** 30<sup>th</sup> and 31<sup>st</sup> March 2017

2. S. Manjula, & **O.L. Shanmugasundaram**, Application of Herbal Nanoparticles in Medical Textiles, Impact of Nanotechnology in the arena of Fibre Manufacturing and Textile Finishing for the Production of Multi Functional Fibers/Fabrics for High-End Applications, **K.S.Rangasamy College of Technology, Tiruchengode** 30<sup>th</sup> and 31<sup>st</sup> March 2017

### **Events Organized**

- (a) **Organizing Secretary**- Science and Engineering Research Board (**SERB**), Govt. of India, New Delhi and Council of Scientific and Industrial Research (**CSIR**), Govt. of India, New Delhi, Sponsored **National Conference** on Impact of Nanotechnology in the arena of Fibre Manufacturing and Textile finishing for the Production of Multi Functional Fibers/Fabrics for High-End Applications during 30<sup>th</sup> and 31<sup>st</sup> March 2017.
- (b) **Organizing Secretary**- Department of Biotechnology Technology, (**DBT**), Ministry of Science and Technology, New Delhi, Sponsored **National Conference** on “Impact of Research and Development in Biotechnology for Sustainable Textile Production” on 23<sup>rd</sup> & 24<sup>th</sup> December 2014. Jointly organized by Department of Textile Technology & Biotechnology.
- (c) **Organizing Secretary** - Council of Scientific and Industrial Research (**CSIR**), Govt. of India, New Delhi, Sponsored **National Seminar** on “Application of Nanotechnology and Advanced Biotechnology in Textile Effluent Treatment for Wastewater Reuse in Textile Industry” on 13<sup>th</sup> & 14<sup>th</sup> August 2012.
- (d) **Organizing Coordinator**- **National Conference** on “Specialty Textile Materials and Machines” on 18<sup>th</sup> February, 2009.
- (e) **Organizing Coordinator** - National Level Students Festival “TEXRELAM-09 & Design Contest” on 17<sup>th</sup> & 18<sup>th</sup> September, 2009.
- (f) **Organizing Coordinator**- National Level Students Technical Symposium “TEXONICS’08.
- (g) **Organizing Coordinator**- National Level Students Technical Symposium “TEXONICS’07.
- (h) **Organizing Coordinator**- National Level Students Technical Symposium “texonics’06.

### **In-charge / Coordinator of Organizing Various Programs & Activities:**

1. Autonomous In-charge- College Level (From 2016 onwards)
2. NAAC Coordinator-Department Level (From 2007 to 2014)
3. NBA Coordinator-Department Level (From 2005 to 2010)
4. ISO Coordinator- Department Level (From 2010 onwards)
5. Board of Studies Meeting In-charge- Department Level (From 2008 to 2011)
6. Department of Textile & Fashion Technology-Association Coordinator (From 2005 to 2011)
7. Parents-Teachers Meeting Coordinator (From 2006 to 2008)

## **Award and Honours**

### ***International Conference Committee Member***

- [1] 3rd Annual Conference and Expo on Biomaterials to be held on March 05-06, 2018, Berlin, Germany. <http://biomaterials.conferenceseries.com/organizing-committee.php>
- [2] 13<sup>th</sup> International Conference and Exhibition on Materials Science and Engineering, November 13-15, 2017, Las Vegas, USA. <http://materialsscience.conferenceseries.com/organizing-committee.php>
- [3] 3<sup>rd</sup> International Conference on Polymer Science and Engineering, 2-5<sup>th</sup> October 2017, USA. <http://polymerscience.conferenceseries.com/europe/ocm/2017/o-l-shanmugasundaram-k-s-rangasamy-college-of-technology-india>
- [4] 15<sup>th</sup> World Medical Nanotechnology Congress, October 18-19, 2017, Japan. <http://medicalnanotechnology.conferenceseries.com/organizing-committee.php>
- [5] 6<sup>th</sup> World Congress on Biopolymers, Paris, France, September, 2017 <http://biopolymers.conferenceseries.com/organizing-committee.php>

### ***Scientific/Technical Programme Committee Member in International & National Conferences***

1. 4<sup>th</sup> International Conference on Nanoscience and Nanotechnology during 14-15<sup>th</sup> December 2017 at Sri Lanka. <http://nanoconference.co/conference-chairs-committee/>
2. ICTE 2017: 19th International Conference on Textile Engineering, Sydney, Australia, December 1 - 2, 2017. <https://www.waset.org/conference/2017/12/sydney/ICTE/committees>
3. International Conference on Sports Engineering, 23-25 October, 2017, BITS Pilani, India. <http://www.bits-pilani.ac.in/icse2017/team.html>
4. Fifth International Conference on Natural Polymers Biopolymers and Biomaterials, June 7-9<sup>th</sup> 2017, Brazil. <https://www.icnp2017rio.com/scientific-committee>
5. 7<sup>th</sup> APMAS 2017 International Advances in Applied Physics and Materials Science Congress, April 22-26, 2017, Turkey. <http://www.apmascongress.org/speakers/committees>
6. International conference on Advanced Polymeric Materials in 7<sup>th</sup> to 9<sup>th</sup> April 2017, Mahatma Gandhi University, Kerala. <http://www.polymericmaterials.macromol.in/committee.html>
7. First International Conference on Frontiers of Research in Engineering, Science and Technology 2017, <http://www.icaciem.org/comt.php>
8. The 3rd Annual International Conference on Material Science and Material Engineering [MSME2016], December 16 - December 18, 2016, Chengdu, Sichuan, China. <http://www.msme2016.org/>
9. The 2nd Conference on Tissue Engineering and Regenerative Medicine (CTERM 2016), March 18 to 20, 2016 in Los Angeles, USA. <http://www.engii.org/ws2016/CommitteeInfor.aspx?id=715&pid=742>
10. 13<sup>th</sup> Asian Textiles Conference, Geelong, Australia, November 3 to 6, 2015. Australia's Deakin University and Technical Textiles and Non Wovens Association <https://atc-13.org/about/scientific-committee/> <http://atc-13.org/staff/>

### ***Editorial Board Member in Journals***

1. International Journal of Applied Research on Textile, Tunisia.
2. Journal of Materials Science and Engineering, USA
3. Textiles and Light Industrial Science and Technology, USA.
4. Journal of Textile Science & Engineering, USA.

### ***Chairperson in Conferences***

- 1) International Conference on Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications (ICM-2016), 13<sup>th</sup>, 14<sup>th</sup> & 15<sup>th</sup> May 2016. Mahatma Gandhi University, Kottayam, Kerala.
- 2) International Conference on Emerging Trends in Traditional and Technical Textile on 12<sup>th</sup> & 13<sup>th</sup> April 2014, at National Institute of Technology (NIT), Jalandhar, Punjab.
- 3) National Seminar on Technical Textiles and its Applications in Medical and other Engineering Field on 10<sup>th</sup> & 11<sup>th</sup> September 2015 at Kumaraguru College of Technology, Coimbatore.
- 4) 27<sup>th</sup> National Convention of Textile Engineers & National Seminar on 20<sup>th</sup> & 21<sup>st</sup> February 2014, KSR College of Technology, Tiruchengode.

### **Membership in Professional Bodies**

- ✓ Member in World Academy of Science, Engineering and Technology, USA
- ✓ Life Member in Society of Biomaterials and Artificial Organs, India
- ✓ Life Member in Indian Society for Technical Education, India.
- ✓ Life Member in Textile Association, India

### ***Reviewer of Manuscripts in Journals***

1. Applied Surface Science- Elsevier
2. Carbohydrates -Elsevier
3. Biomaterials-Elsevier
4. Fibres and Polymers- Springer
5. Journal of Biomaterials Applications – Sage Publications
6. The Journal of the Textile Institute - Taylor & Francis.
7. Journal of Natural Fibres published - Taylor & Francis,
8. Journal of Biomaterials Applications - Sage
9. Textile Research Journal - Sage
10. Journal of Industrial Textiles - Sage
11. Indian Journal of Fibre & Textile Research - NISCAIR
12. Journal of Applied Polymer Science- Wiley