

## **Biodata of the Scientist**

Division/Section: Crop Utilisation

### **A. Personal information**

1. Name(With Title): **Dr. M.S. SAJEEV**

1. Qualification: M.Tech (Post harvest Engineering), Ph.D (Agrl Processing)

2. Designation: Principal Scientist

3. Address(Personal): Raagam, THARA-362, Deepthi Nagar,

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6. Countries visited: USA, Bangaldesh

### **B. Professional information**

1. Area of specialization: Agrl. Process Engineering

2. Area of interest: Agrl. Process Engineering, Post harvest machineries, value addition of tuber crops for food products, starch based films and composites, texture and rheology of tropical tubers and starches, extrusion technology, thermoplastic starches for biodegradable articles

3. Number of institute projects completed (Add list): As PI:9 and Co PI:9

#### **As Principal Investigator:**

1. Development of a centrifugal granulator for cassava based feed
2. Texture analysis of processed and value added products from cassava
3. Development of a hydrocyclone system for cassava starch milk concentration
4. Development of an improved industrial rasper for cassava starch industries
5. Process technology for the production of dehydrated quick cooking tubers
6. Development of biodegradable film from native and modified tuber starches
7. Development of functional pasta and spaghetti from yams and aroids based composite flours
8. Assessment of harvest and post harvest losses of major crops and commodities in India under All India Co-ordinated Research Project on Post Harvest Technology
9. Survey to identify the practices for ripening of mango, banana and papaya

#### **As Co-Investigator:**

1. Development of a pilot plant for manufacturing liquid adhesive from cassava starch
2. Development of an improved industrial rasper for cassava starch industries
3. Production of food extrudates from cassava flour/starch
4. Development of small equipment for papad and wafer making
5. Scaling up and transfer of technology of starch based products
6. Physical modification of tuber starches for food and industrial applications
7. Development of cassava and coconut based extrudates
8. Development of technology fo rnutritionally fortified pasta and designer food products from tuber crops




9. Information on guide ship

Guide ship for Ph.D/ M.Phil/ M.Sc	University	Subject

10. Number of Research papers (Add list): 35

1. **Sajeev M.S**, S.K.Nanda and J.T.Sherieff. 1997. Hygroscopic characteristics of cassava based formulated feed system. *Journal of Root Crops*. 23 (1): 19-25.
2. **Sajeev M.S** and S.N.Moorthy. 1997 .Effect of steam pressure treatment on rheological properties of components of cassava based feed. *Journal of Root Crops*. 23 (2): 74-80.
3. K.Thangavel, R.Kailappan A.Manickavasagan and **M.S.Sajeev**.1998.Studies on single hydrocyclone for the concentration of cassava starch milk *Journal of Root Crops*. 24 (1): 37-42.
4. **Sajeev M.S**, R. Kailappan, V.V.Sreenarayanan and K. Thangavel. 2002. Kinetics of gravity settling of cassava starch in its aqueous suspension. *Biosystems Engg.*, 83,327-337
5. **Sajeev, M.S**, S.N. Moorthy, R. Kailappan and Sunitha Rani. 2003. Gelatinisation characteristics of cassava starch settled in the presence of different chemicals. *Starch/Starke*55(5):247-55
6. **Sajeev, M.S**, Manikantan, A.R.P. Kingsli, S.N. Moorthy, J. Sreekumar. 2004. Texture analysis of taro (*Colocasia esculenta* (L), Schott) tubers during storage and cooking. *Journal of Food Science*, 69(7):315-321
7. **Sajeev, M.S**, Rajesh, G.K., R. Kailappan and Vimala. B. Moisture dependant physical properties of yam bean seeds. *African Journal of Root and Tuber Crops*. 2004 : 6(1):16-19.
8. Jyothi, A.N., Sasi Kiran, **M.S. Sajeev**, R. Revamma and S.N. Moorthy. 2005. Gelatinisation properties of cassava starch in the presence of salts, acids and oxidising agents. *Starch*, 57(11):547-556
9. **Sajeev M.S** and C. Balagopalan. 2005. Performance evaluation of multi-purpose mobile starch extraction plant for small scale processing of tuber crops. *Journal of Root Crops*, 31(2):106-110.
10. **Sajeev M. S.**, Sreekumar J., Moorthy S.N., Suja G and Shanavas S. 2008. Texture analysis of raw and cooked tubers of short duration lines of cassava by multivariate and fractional conversion techniques. *Journal of the Science of Food and Agriculture* 88:569-580

11. **Sajeev M.S.** and R. Kailappan. 2008. Effect of various processes on settling of cassava starch. *Journal of Root Crops*. 34(2):148-56
12. Sudheesh P, Jinu G, **Sajeev M.S** and Lisa S. 2009. Polymer induced structures in cetylpyridinium chloride–octanol micellar system. *Journal of Polymer Research* 16:577–582
13. Sudheesh P, Jinu G, **Sajeev M. S** and Lisa S 2009. A Rheological Approach to Viscoelastic Worm-Like Micelles of Tunable Properties. *Journal of Surfactants and Detergents*. 12:219–224
14. Jyothi A.N., **M.S. Sajeev**, S.N.Moorthy, J Sreekumar and K.N. Rajasekhara. 2008. Microwave assisted synthesis of cassava starch phosphates and their Characterisation, *Journal o Root Crops*. 34(1): 34-42.
15. **Sajeev M.S**, Sreekumar, J, Unnikrishnan, M, Moorthy, S.N and Shanavas, S. 2009. Kinetics of thermal softening of cassava tubers and rheological modeling of the starch. *Journal of Food Science and Technology* 47 (5):507-518
16. Jyothi A.N., J.T. Sheriff and **M.S. Sajeev**. 2009. Physical and functional properties of arrowroot starches. *Journal of Food Science*.74(2). P E97-E104
17. Jisha, S., Padmaja, G., Moorthy, S.N., and **Sajeev, M.S**. 2009. Textural and rheological properties of Whey protein concentrate fortified baked goods from cassava based composite flours: *J. Food Sci. Technol.* 46 (6): 532-537.
18. Jyothi. G.Krishnan, G.Padmaja, S.N.Moorthy, G.Suja and **M.S.Sajeev**. 2010. Effect of pre-soaking treatments on the nutritional profile and browning index of sweet potato and yam flours. *Inno. Food Sci. Emerg. Technologies*. 11: 387–393
19. Jisha, S., Padmaja, G., and Sajeev, M.S. 2010. Nutritional and textural studies on dietary fiber enriched muffins and biscuits from cassava based composite flours. *Journal of Food Quality*, DOI:10.1111/j.1745-4557.2010.00313.x
20. Jyothi, AN., **M. S. Sajeev**, S. N. Moorthy, J. Sreekumar. 2010. Effect of graft-copolymerization with poly(acrylamide) on the thermal and rheological properties of cassava starch, *Journal of Applied Polymer Science*, 116(1), , 337-346.
21. Jyothi, A.N., **M. S. Sajeev**, S. N. Moorthy. 2010. Hydrothermal modifications of tropical tuber starches 1. Effect of heat-moisture treatment on the physicochemical, rheological and gelatinization characteristics of tuber starches, *Starch/Stärke* 62, , 28-40.
22. Jyothi A.N., **M. S. Sajeev**, S. N. Moorthy, J. Sreekumar. 2010. Effect of graft-copolymerization with poly(acrylamide) on the thermal and rheological properties of cassava starch, *Journal of Applied Polymer Science*, 116(1), , 337-346
23. Shanavas, S., Padmaja, G., Moorthy, S.N., **Sajeev, M.S** and Sheriff, J.T. 2011. Process Optimization for Bioethanol Production from Cassava Starch using Novel Eco-friendly Enzymes. *Biomass & Bioenergy* 35: 901-909.
24. **Sajeev M.S**, Sreekumar, J, Vimala, B, S.N. Moorthy and A.N. Jyothi.2011. Textural and Gelatinization Characteristics of White, Cream and Orange Fleshed Sweet Potato Tubers (*Ipomoea batatas* L.) . *International Journal of Food Properties*
25. **Sajeev, M.S.**, J. Sreekumar, V. Ravi, A. N. Jyothi and J.T. Sheriff. 2011. Textural and Rheological attributes of the tubers of some exotic cassava genotypes. *Journal of Root Crops*. 37(2): 174-180

26. A.N.Jyothi., **M. S. Sajeev**, and J. Sreekumar. 2011. Hydrothermal modifications of tropical tuber starches - Effect of annealing on the physicochemical, rheological and gelatinization characteristics. *Starch/Stärke*, 63, 536-549.
27. A.N. Jyothi, **M. S. Sajeev**, P. C. Parvathy, and J. Sreekumar. 2011. Optimization of Synthesis and Characterization of Cassava Starch-graft-poly(Acrylonitrile) Using Response Surface Methodology, *Journal of Applied Polymer Science*. 122(3), 1546-1555.
28. Soumya B. Nair, A. N. Jyothi, **M. S. Sajeev**, R. S. Misra. 2011. Rheological, Mechanical and Moisture Sorption Characteristics of Cassava Starch-Konjac glucomannan Blend Films. *Starch/Stärke*, 63, 728-739.
29. Jyothi G Krishnan, Renjusha Menon, Padmaja G, **Sajeev MS** and Moorthy SN. 2011 Nutritional and Functional characteristics of protein fortified pasta from sweet potato. *Food and Nutritional Science*.2,944-955
30. Barnabas Wilson, Patel Hardikkumar Sitarambhai, **M.S. Sajeev**, G. Vinothapooshan.2011 Design and evaluation of sustained release matrix tablets of levofloxacin for effective treatment of microbial infections., *International Journal of Drug Delivery* 3: (2011) 305-314 .
31. **Sajeev M.S.**, S.K.Nanda and J.T. Sheriif.2012, An efficient blade type rasper for cassava starch extraction, *Journal of Root Crops*. 38(2):151-156
32. Renjusha Menon, G.Padmaja, **M.S.Sajeev** and J.T.Sheriff.2012.Effect of fortification with different starches on starch digestibility, textural and ultrastructural characteristics of sweet potato spaghetti. *Journal of Root Crops*. 38(2):157-167.
33. Jyothi G Krishnan, Renjusha Menon, Padmaja G, **Sajeev MS** and Moorthy SN. 2012. Evaluation of nutritional and Physico mechanical properties of dietary fibre enriched sweet potato pasta. *Eurpoean Food Research and Technology*. 234:467–476
34. Divya Nair, M.P., Padmaja, G., **Sajeev, M. S** and Sheriff, J.T. 2012. Bioconversion of cellulo-starch waste from cassava starch industries for ethanol production using pretreatment techniques and improved enzyme systems. *Industrial Biotechnology*, 8(5): 300-308
35. Barnabas Wilson, Patel Pritesh Babubhai, **M. S. Sajeev**,Josephine Leno Jenita..S. R. Brahmani Priyadarshini. 2013. Sustained release enteric coated tablets of pantoprazole: Formulation, *in vitro* and *in vivo* evaluation, *Acta Pharm*. 63 (2013) 131–140.

11. Number of Books/Book chapters(Add list): **13**.

1. **Sajeev M.S.**, S.K.Nanda and G.Padmaja. 1998 . Extrusion processing of cassava based livestock feed. In: *Tropical Tuber Crops In Food Security and Nutrition*. Eds. C.Balagopaln, T.V.R.Nayar,S.Sundaresan, T.Premkumar and K.R.Lekshmi. Oxford and IBH Publishing Co Pvt Ltd. New Delhi. pp:60-68.
2. Balagopal. C et al. 2000. Integrated technologies for value addition and post Harvest management in tropical tuber crops. Central Tuber crops Research Institute, Trivandrum
3. V.P. Potty, S. Edison, C.A. Jayaprakash and **M.S. Sajeev**. 2002. Food security through sustainable technologies, *Proceedings of XII Swadeshi Science Congress*, 2002, Trivandrum

4. Padmaja, G., Moorthy, S.N., Bala Nambisan, Lila Babu, Sundaresan, S., **Sajeev, M.S.**, Nanda, S.K., Susan John, K., Rajaleshmy, L., Sudha Devi, K.S. and Manikantan Nair, M. 2005. Analytical Methodologies for Tropical Tuber Crops. Laboratory Manual Series 02, CTCRI, Thiruvananthapuram
5. Palaniswami, M.S., Sherly Raichel, **M.S. Sajeev**, M. Unnikrishnanan, P.P. Singh and B.C.Choudhary.. 2008. Abstract book (Status papers and extended summary) of National Seminar on “*Amorphophallus*: Innovative Technologies”.19-20<sup>th</sup> July 2008, Rajendra Agrl. University, Patna, Bihar.
6. Edison S., G Padmaja and **M.S. Sajeev**. 2008. Proceedings of the Scientist-Entrepreneurs Interface, organized by CTCRI on 12<sup>th</sup> August at CTCRI, Trivandrum, Kerala
7. **Sajeev M.S.**, Anantharaman, M., Padmaja G, Unnikrishnan, M, Ravi V, Suja G, Vinayaka Hedge. 2011. Climate Change and Food Security: Challenges and Opportunities, Proceedings of the National Seminar on Climate Change and Food Security: Challenges and Opportunities for Tuber Crops (NSCFT 2011), 20-22, January, 2011, Indian Society for Root Crops, Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala
8. Padmaja G., J.T.Sheriff and **M.S.Sajeev**. 2012. Food Uses and nutritional benefits of sweet potato. In: Fruit Vegetable and Cereal Science and Biotechnology. Global Science Books, Ltd.,46 Syon Lane, Isleworth, Middlesex,TW7 5NQ, United Kingdom.
9. Moorthy S.N, **M.S.Sajeev** and S.Shanavas. 2012. Sweet potato starch-Physico-chemical, functional, thermal and rheological characteristics. In: Fruit Vegetable and Cereal Science and Biotechnology. Global Science Books, Ltd.,46 Syon Lane, Isleworth, Middlesex,TW7 5NQ, United Kingdom
10. Jyothi A. N., **M. S. Sajeev**, G. Padmaja and S. K. Naskar.2012. Biodegradable Nanocomposite Materials for Food Packaging, In: Nanotechnology in Agriculture (Eds: Singh, H. P. Anilkumar and Parthasarathy, V. A.), Westville Publishers, New Delhi.
11. **Sajeev M.S.**, A.N. Jyothi, J.T.Sheriff.2013.Development of Biodegradable film from cassava starch – nano clay composites. Food processing technologies- challenges and solution for sustainable food security”.(ISBN:1-0-978-81-926250). 4-5, January 2013. IICPT, Thanjavur
12. **Sajeev M.S.**, S. Seena, A.N. Jyothi and J.T.Sheriff. 2013. Quick cooking dehydrated *Amorphophallus* tubers:Production process and properties. In Aroids: Opportunities and challenges. Ed by R.S.Misra and M.Nedunchezhiyan.Allied Publishers Private Ltd.New Delhi.
13. Ravi, V., G. Suja,A. Asha Devi,T. Makesh Kumar,**M. S. Sajeev**,S. S. Veena and V. S. Santhosh Mithra.2013. Abstract book of papers. International Conference on Tropical Roots and Tubers for Sustainable Livelihood Under Changing Agro-Climate (ICTRT 2013), 09-12 July 2013, organised by Indian Society for Root Crops (ISRC) and Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram ,Kerala, India

12. Number of Technical Bulletins (Add list): 7.

1. S.K. Nanda, **M.S. Sajeev**, J.T. Sheriff and P Hemasankari. 2005. Starch extraction machinery for tuber crops. Technical Bulletin 40. Central Tuber Crops Research Institute, Sreekariyam, Trivandrum
2. S.K. Nanda, J.T. Sheriff and **M.S. Sajeev**. 2005. Primary processing equipment for cassava. Technical Bulletin 41. Central Tuber Crops Research Institute, Sreekariyam, Trivandrum
3. J.T. Sheriff, S.K. Nanda and **M.S. Sajeev**. 2005. Current status of cassava processing industries in South India. Technical Bulletin 42. Central Tuber Crops Research Institute, Sreekariyam, Trivandrum.
4. **Sajeev M.S** and JT Sheriff. 2008. Harvest and post harvest equipments in tuber crops
5. J.T. Sheriff, **M.S. Sajeev** and G Padmaja. 2008. Extruded products from tuber crops
6. G. Padmaja and **M.S. Sajeev**. 2008. Fried snack foods from cassava
7. G.Padmaja and **M.S. Sajeev** . 2008. Protein and fibre enriched functional foods and cassava fried chips.

13. Consultancies offered (Add list and give a brief description):

- Technology for the production of fried snack food products from cassava flour
- Machineries for starch extraction from tuber crops
- Training programmes for the farmers/ entrepreneurs/ agri officers/students on value addition and post harvest machineries in tuber crops as per the requirements

14. Technologies developed (Add list and give a brief description):

- Feed granulator for cassava based animal feed
- Multipurpose mobile starch extraction plant for tuber crops
- Cassava rasper (900-1000 kg/h) capacity for the extraction of starch
- Industrial cassava rasper (2 t/h) capacity for the extraction of starch
- Formulations standardized for the production of ten fried snack foods using cassava based composite flours
- Formulations standardized for the production of two fried snack foods using raw cassava mash
- Dual mechanism first order kinetic models were developed to understand the thermal softening behavior of cassava tubers
- Standardized different pretreatments for the frozen storage of cassava tubers
- Quick cooking dehydrated cassava tubers (2-3 min) of comparable texture as that of the fresh cooked tubers were developed
- Hydrocyclone system to reduce water consumption in cassava starch industries
- Kinetic models on the cooking quality of sweet potato tubers
- Rheological models on the gelling behavior of *Amorphophallus* starch
- Quick cooking dehydrated cassava/*Amorphophallus* tubers (2-3 min) of comparable texture as that of the fresh cooked tubers were developed
- Cassava/Sweet potato starch based biodegradable films were developed
- Modified cassava starch based biodegradable films developed
- Cassava starch- nano clay composite based film developed

15. Patents/Copyrights obtained (Add list and give a brief description):

16. Any other information:

**i. Papers presented in Seminars/Conferences : 61**

1. **Sajeev M.S.** 1996 Performance evaluation of a rotary seed pelletizer with soil clay as the medium. VIII Kerala Science Congress, Kochi.27-29,January. pp: 225-226
2. **Sajeev M.S.**, S.K.Nanda and G.Padmaja.1998 . Extrusion processing of cassava based livestock feed. In: Tropical Tuber Crops In Food Security And Nutrition. Eds. C.Balagopalan, T.V.R.Nayar,S.Sundaresan, T.Premkumar and K.R.Lekshmi. Oxford and IBH Publishing Co Pvt Ltd. New Delhi. pp:60-68.
3. **Sajeev M.S.**, Saraswathy Eswaran and Jesupriya Poornakala.1998. Effect of dewaxing treatment on dehydration characteristics of grapes. XIII National Convention of Agricultural Engineers. Organised By Institution of Engineers (India) and Tamil Nadu Agricultural University, Coimbatore. October 23-24
4. K.Thangavel, A.Manickavasagan, R.Kailappan and **M.S.Sajeev**.1998.Development and testing of single hydrocyclone for cassava starch milk concentration. XIII National Convention of Agricultural Engineers. Organised By Institution of Engineers (India) and Tamil Nadu Agricultural University, Coimbatore. October 23-24,
5. **Sajeev M.S** and J.T.Sherief. 1999 Frictional properties and water sorption of fortified cassava based feed. XI Kerala Science Congress, Kasaragode.January 27-29,397-400.
6. **Sajeev M.S**, R.Kailappan, V.V.Sreenarayanan and K. Thangavel2001.Studies on various processes to aid settling of cassava starch. XXXV ISAE convention of Indian Society of Agricultural Engineers held at OUAT, Bhubaneswar, Orissa. January 22-24, 2001
7. **Sajeev M.S.**, R.Kailappan and Shinoj Subramanian 2000 Fabrication and Field evaluation of a papaya latex collector. XII Kerala Science Congress, Kumli, Jan 27-29. 712-714.
8. Rajesh G.K, V.V.Sreenarayanan and **M.S.Sajeev**.2000.Treatability studies of cassava starch factory effluent. XII Kerala Science Congress, Kumli, Jan 27-29. 608-610.
9. **Sajeev, M.S.**, R.Kailappan G.K.Rajesh and B.Vimala.2000.Water imbibition and hardness characteristics of Yam Bean seeds. ISOTUC-III, Trivandrum, 19 -22 January, 2000,
10. Rajesh,G.K, V.V.Sreenarayanan and **M.S.Sajeev**.2000. Development of an anaerobic fixed film bioreactor for treatment of cassava starch factory effluent. ISOTUC-III, Trivandrum, 19-22 January, 2000.
11. **Sajeev M S** and S N. Moorthy.2000. Swelling and viscometric characteristics of Cassava starch settled in the presence of different chemicals. Paper presented at XV Carbohydrate Conference, The Association of Carbohydrate Chemists and Technologists(India) at Sardar Patel University, Anand, Gujarat during October 16-17, 2000.
12. **Sajeev M.S** and C. Balagopalan. 2001. Multi-Purpose Mobile Starch Extraction Plant for Small Scale Processing of Tuber Crops.Paper presented at Swadeshi Science Congress held at Peechi, Trichur. 7-9, November,2001.



13. **Sajeev M.S**, Sasi Kiran, K. Sreekumar, J and S.N.Moorthy. 2001..Development of statistical models to predict the pasting characteristics of cassava starch.Poster presented at XVI Carbohydrate Conference, National Seminar of Association of Carbohydrate Chemists and Technologists (India), December, 6-7, 2001, CTCRI, Trivandrum
14. **Sajeev M.S** and R. Kailappan.. 2002.Performance evaluation of hydrocyclone for concentrating cassava starch suspension. Proceedings of XIV Kerala Science Congress, 29-31 January, 2002, CUSAT, Kochi. Pp.282-286.
15. Nanda, S.K, Moorhty, S.N , **Sajeev M.S**. 2002. Post Harvest management of cassava for Industrial utilisation in India, VII Asian cassava Research Workshop at Bangkok, Thailand, October 28- November 1, 2002.
16. **Sajeev M.S**. 2002.Hydrocyclone-An alternate for cassava starch milk concentration.Paper presented at XII Swadeshi Science Congress held at Trivandrum, 9-11, November,2002.
17. P. Hemasankari, S.K.Nanda amd **M.S.Sajeev**.2002.Harvest and post harvest equipments in tuber crops Paper presented at XII Swadeshi Science Congress held at Trivandrum, 5-7, November,2002
18. **Sajeev M.S** and R. Kailappan. 2002. Performance evaluation of hydrocyclone for concentrating cassava starch suspension. XIV Kerala Science Congress, 29-31 January, 2002, CUSAT, Kochi. Pp.282-286.
19. **Sajeev M.S** 2002. Hydrocyclone-An alternate for cassava starch milk concentration. XII Swadeshi Science Congress held at Trivandrum, 9-11, November,2002
20. **Sajeev, M.S.**, G. Padmaja and S.N. Moorthy, S.K. Nanda,2003.Product diversifications: means to upgrade tuber crops from food to commercial crops. Paper presented in the XIII Swadeshi Science Congress Held at Kalpetta, November5-7, 2003.
21. Padmaja, S. N. Moorthy, and **M.S.Sajeev**, 2004.Value added products from tropical tuber crops as sustainable source of income. Paper presented in the National Seminat on Horticulture, Nagaland, Feb24-26, 2004.
22. **Sajeev M.S.**, S.N.Moorthy and J.T. Sheriff. 2004. Instrumental methods to measure the texture of food products. XIV Swadeshi Science Congress Held at Kumali 5-7, November, 2004.
23. **Sajeev M.S.**, S.N.Moorthy and R. Kailappan. 2004. Rheological properties of cassava starch settled in the presence of different chemicals. International Conference on "Emerging trends in Agricultural and food engineering, 14-17, December, 2004, Indian Institute of Technology, Kharagpur
24. **Sajeev M.S.**, S.N.Moorthy and S. Shanavas. 2005 Pasting characteristics of tuber starch mixtures. National Seminar on " Achievements and opportunities in post harvest management and value addition in tuber crops"( NSRTC 2), Central Tuber Crops Research Institute, Trivandrum, 19-20, July 2005
25. **Sajeev M.S**, S.N Moorthy and S. Shanavas 2005. Flow properties of cassava starch suspension as influenced by concentration and heating. XV Swadeshi Science congress held at Thalassery, 05-07, November 2005.
26. **Sajeev, M.S**. S.N.moorthy, V. Ravi and S. Shanavas. 2006. Genotypic variation of textural attributes of cassava tubers. 14<sup>th</sup> Triennial Symposium of the International Society for Tropical Root Crops, 20-26, November, 2006, Trivandrum

27. **Sajeev M.S.** and R. Kailappan. 2005. Design considerations of a hydrocyclone for cassava processing. National Seminar on “ Achievements and opportunities in post harvest management and value addition in tuber crops”( NSRTC 2), Central Tuber Crops Research Institute, Trivandrum, 19-20, July 2005
28. **Sajeev M.S.**, S.N.Moorthy and S. Shanavas. 2005 Pasting characteristics of tuber starch mixtures. National Seminar on “ Achievements and opportunities in post harvest management and value addition in tuber crops”( NSRTC 2), Central Tuber Crops Research Institute, Trivandrum, 19-20, July 2005
29. **Sajeev M.S**, S.N Moorthy and S. Shanavas 2005. Flow properties of cassava starch suspension as influenced by concentration and heating. Paper presented in the XV Swadeshi Science congress held at Thalassery, 05-07, November 2005.
30. **Sajeev, M.S.**, S.N.Moorthy and J. Sree Kumar and S. Shanavas. 2007 .Viscoelastic properties of cassava starch gel as influenced by varieties. National seminar on “Emerging Technologies in Food processing and ensuring Food safety”, October 16-17, Tamil nadu Agricultural University, Coimbatore.
31. **Sajeev M.S.**, S.N. Moorthy and J.T. Sheriff. 2007. Texture and rheology of tropical tubers. 17<sup>th</sup> Swadeshi Science Congress, November 6-8<sup>th</sup> November, Calicut
32. **Sajeev,M.S.**, S.N. Moorthy and J.T.Sheriff . 2007. Kinetics of thermal softening of tropical tubers”. National Conference on “Prospects and Challenges in Food Processing” January, 24-25, 2007, SRM University, Chennai
33. **Sajeev M.S**, Moorthy, S.N. and J.T. Sheriff. 2008 “Textural and rheological properties of *Amorphophallus* tubers”. National Seminar on “*Amorphophallus*: Innovative technologies” held at Bihar Agrl university, Patna during 19-20, July, 2008
34. **Sajeev M.S**, Moorthy, S.N. and J.T. Sheriff. 2008 “Development of quick cooking cassava products using microwave and combined microwave convection drying. National Seminar on “Food Security through Innovations in Food Processing and Entrepreneurship Development” during 29-30, September, 2008 , Trichur
35. **Sajeev M.S**, A.N Jyothi, S Seena and J.T.Sheriff. 2010. Modification of rheological and pasting properties of cassava starch with hydrocolloids and glycerol. International Conference on Recent trends in Material Science and Technology, ICMST 2010, 29-31, 2010, Trivandrum.
36. **Sajeev MS**, Jyothi AN, Seena S and Sheriff JT. 2010. Process Optimization for the Production of Quick Cooking Dehydrated Cassava (*Manihot esculenta*) Tubers. International Conference on Traditional Foods ICTF 2010. 1-3, December 2010 organized by AFST(I) and Pondichery University at Pondichery.
37. **Sajeev MS**, Seena S, Jyothi AN and Sheriff JT. 2011. Development of Quick Cooking Convenience Dehydrated *Amorphophallus* Tubers. 23<sup>rd</sup> Kerala Science Congress, 29-31 January 2011, Trivandrum
38. **M.S.Sajeev**, S.Seena, A.N. Jyothi and J.T. Sheriff. 2011. Effect of Freezing on the Dehydration and Rehydration Characteristics of Cooked Cassava Tubers. Proceedings of the National Seminar on Climate Change and Food Security: Challenges and Opportunities for Tuber Crops (NSCFT 20110, 20-22, January, 2011, Indian Society for Root Crops, Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala
39. **M.S.Sajeev**. 2011. Textural Properties of Deep Fried Cassava Sago, Wafers and Pappads.. Proceedings of the National Seminar on Climate Change and Food Security: Challenges and Opportunities for Tuber Crops (NSCFT 20110, 20-22,

- January, 2011, Indian Society for Root Crops, Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala
40. P. Sethuraman Sivakumar, R.C. Ray and **M. S. Sajeev**. 2011. Sensory Quality and Market Demand *Palua Ladoo*- An Arrowroot Based Indigenous Food Product of Orissa. Proceedings of the National Seminar on Climate Change and Food Security: Challenges and Opportunities for Tuber Crops (NSCFT 20110, 20-22, January, 2011, Indian Society for Root Crops, Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala
  41. G. Padmaja, S.N.Moorthy, J.T. Sheriff, **M.S. Sajeev**, A.N. Jyothi. 2011. R&D on Post Harvest Processing and Value Addition in Tuber Crops: An Overview. In: Proceedings of the National Seminar on Climate Change and Food Security: Challenges and Opportunities for Tuber Crops (NSCFT 20110, 20-22, January, 2011, Indian Society for Root Crops, Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala
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50. **Sajeev M.S.** 2012. Technologies for post harvest management and value addition of tuber crops. Project planning cum inception workshop on "Enhancing food security and sustainable livelihoods in the North- Eastern India through tuber crops technologies , 24-15, July, ICAR- NEH complex Barapani, Shillong, Meghalaya
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52. **Sajeev M.S.**, A.N. Jyothi, J.T.Sheriff.2013.Development of Biodegradable film from cassava starch – nano clay composites. International conference on food technology: "Food processing technologies- challenges and solution for sustainable food security" 4-5, January 2013. IICPT Thanjavur
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55. Jayasree Joshi T, Priyamvada T, Anjana S Pillai, Asif Khan TK, Jyothi AN, **Sajeev MS**, and Indu Bala.2013.Development of Cassava Starch- Bee Wax Composite Biodegradable Films. Paper presented in the National Conference on Emerging Avenues in Food Technology for Better Health and Safety, 8-9, March 2013, TKM Institute of Technology, Kollam.
56. Anjana S Pillai, Asif Khan TK, Jayasree Joshi T, Priyamvada T, Jyothi AN and **Sajeev MS**, Indu Bala.2013.Physico-Mechanical and Hygroscopic Properties of Modified Cassava Starch-Nano Clay Composite Biodegradable Films. Paper presented in the National Conference on Emerging Avenues in Food Technology for Better Health and Safety, 8-9, March 2013, TKM Institute of Technology, Kollam
57. Padmaja,G, Renjusha Menon, Jyothi G. Krishnan and **M. S. Sajeev**.2013.Cassava and sweet potato pasta as novel functional foods with low starch digestibility and high nutritional value. International Conference on Tropical Roots and Tubers for Sustainable Livelihood Under Changing Agro-Climate (ICTRT 2013), 09-12 July 2013, organised by Indian Society for Root Crops (ISRC) and Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram ,Kerala, India
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## ii. Popular Article :37

1. **Sajeev M.S.** 1994. About super critical fluid extraction. Mathrubhumi Daily. 13 March
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10. Karunanidhi C, **M.S. Sajeev** and R. Kailappan. 1998. Cold Storage- need and planning. Kisan World. 25(9): 42

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18. G.Padmaja, S.N Moorthy and **M. S. Sajeev.** 2003. Kizhanguvarga ulpannagalum saskaranvum (Malayalam), Karshaksree, June
19. S.N Moorthy and **M. S. Sajeev.** 2004. Kizhanguvarga saskaranathinu yanthrangalum (in malayalam), Kerala Karshakan, July 46-47.
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28. **Sajeev M.S.** 2008. Gaveshaka Vyavasaya Sarambaka Kootayma. Kerala Karshakan. October 2008, 58-59
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30. **Sajeev M.S.,** G Padmaja and A.N.Jyothi. 2010. Cassava : A Potential raw material for food enterprises. Indian farmers digest, 34(4):25-28.

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32. Padmaja G and **M.S. Sajeev**. 2013. Marachheniyude vila koottam. Kerala Karshakan, March 2013.
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34. Jyothi A.N, m.S. Sajeev and G Padmaja.2013. Promising tubers for industrial revolutions. Indian Horticulture. 58(3):28-33.
35. Padmaja G, J.T.Sheriff and M.S. Sajeev.2013. Healthy foods from tubers. Indian Horticulture. 58(3):18-21.
36. Padmaja G, J.T.Sheriff and M.S. Sajeev.2013. Kizhanguvarghangalile ulpanna vividhyavalkaranavum avayude vipanana sahyathakulam.Krishiyankanam.18(2):35-36
37. Sajeev M.S. and J.T.Sheriff. 2013. Maracheeniyude vilavothara saskarana yanthrangal. Krishiyankanam.18(2):37-39

### iii. Reviewer for National/International Journals viz.,

1. Journal of Root Crops.
2. Journal of Agrl Engineering
3. Journal of Food Process Engineering
4. Food & Bioprocess Technology
5. Journal of Food Science Technology
6. International Journal of Food Properties
7. Journal of Texture Studies
8. Journal of Tropical Agriculture
9. Journal of Spices and Aromatic Crops
10. African Journal of Food Science

### iv. Awards/ Recognition

1. **National Merit Scholarship** for Undergraduate Studies:1985-1989
2. **GATE Scholarship** for Post Graduate Studies 1990-91
3. **Norman E Borlaug Fellowship** at Tuskegee University and Cornel University, USA under Indo-US knowledge Initiative programme during January 28 - March 10, 2008.
4. Award for the **Best Technical Presentation** for the paper "Kinetics of thermal softening of tropical tubers" authored by M.S. Sajeev, S.N. Moorthy and J.T.Sheriff. National Conference on "Prospects and Challenges in Food Processing" January, 24-25, 2007, SRM University, Chennai
5. **Young Scientist Award**, 1996. Deseeya Sasthra Vedi Science Congress, Trichur.
6. **Co-author** of the paper "Development of modified cassava starch as excipient for pharmaceutical tablet formulation" bagged the **Young Scientist award** -2007 by Mr. S. Shanavas in the 17<sup>th</sup> Swadeshi Science Congress, November 6-8<sup>th</sup> , Calicut
7. **Co-author** of the paper "Starch-Surfactant Complexation-A Green Technique for Modification of Cassava Starch Properties. Bagged the **Young Scientist Award**

- 2011** by G.S. Radhika, S.N. Moorthy and M.S. Sajeev.2011 in the National Seminar on Climate Change and Food Security: Challenges and opportunities for Tuber Crops, 20-22, January , 2011, Central Tuber Crops Research Institute, Thiruvananthapuram, , Kerala
8. **Co-author** of the paper “Biochemical Changes of Tubers of Elephant foot yam due to the Infestation of the Mealy bug, *Rhizoecus* Sp” bagged **Runner up (best poster presentation)** by R.S. Sreerag C.A. Jayaprakas, M.S. Sajeev and S. Ratheesh. 2011 in the National Seminar on Climate Change and Food Security: Challenges and opportunities for Tuber Crops, 20-22, January , 2011, Central Tuber Crops Research Institute, Thiruvananthapuram, , Kerala
  9. **Co-author** of the paper “Nutritional, cooking and starch digestibility characteristics of native and pre-treated legume flour fortified sweet potato spaghetti” bagged **Best Paper Award** by Renjusha Menon, G. Padmaja and M. S. Sajeev. International Conference on Tropical Roots and Tubers for Sustainable Livelihood Under Changing Agro-Climate (ICTRT 2013), 09-12 July 2013, organised by Indian Society for Root Crops (ISRC) and Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram ,Kerala, India
  10. **Co-author** of the paper “Development of Cassava Starch- Bee Wax Composite Biodegradable Films bagged **Best Paper Award** by Jayasree Joshi T, Priyamvada T, Anjana S Pillai, Asif Khan TK, Jyothi AN, **Sajeev MS**, and Indu Bala in the National Conference on Emerging Avenues in Food Technology for Better Health and Safety, 8-9, March 2013, TKM Institute of Technology, Kollam.
  11. **Co-author** of the paper “Physico-Mechanical and Hygroscopic Properties of Modified Cassava Starch-Nano Clay Composite Biodegradable Films” bagged **Best Poster Award** by Anjana S Pillai, Asif Khan TK, Jayasree Joshi T, Priyamvada T, Jyothi AN and **Sajeev MS**, Indu Bala in the National Conference on Emerging Avenues in Food Technology for Better Health and Safety, 8-9, March 2013, TKM Institute of Technology, Kollam



