



A.B. Gayathri Chathurika Jeevani De Silva

Research Engineer

Food Technology Section

Qualifications

MSc in Sustainable Process Development, University of Moratuwa, Sri Lanka.

BSc in Engineering (Chemical and Process), University of Moratuwa, Sri Lanka.

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Specialized Fields

Chemical and Process Engineering, Food Engineering

Interest Areas

Fermentation, Thermal Processes, Non-Thermal Plasma Technology, Processing of

Starch, Mathematical Modeling, Kinetics in Microbial Processes

Publications

Publications

1. Samaraweera S.A.P.U., **De Silva A.B.G.C.J.**, Samaranyake M.D.W., Gunawardhana K.V.T., and Herath H.M.T. (2016). Potential application of locally grown Sri Lankan corn varieties to utilize in the food industry; Corn Starch and Corn Syrup. *International Journal of Innovative Research in Technology and Science*, 4, 17-22
2. Samaranyake M.D.W., **De Silva A.B.G.C.J.**, Fernando W.R.D., Gunawardhana K.V.T. and Herath H.M.T. (2015). Optimization of liquefaction and saccharification times for laboratory scale production of glucose syrup from Cassava starch and scaling up process of optimized conditions at pilot scale. *Research Journal of Chemical Sciences*, 7, 1-5

Refereed Communications (International and Local)

1. **De Silva A.B.G.C.J.**, and Amunugoda P.N.R.J. (2020). Decontamination of natural microbial load in Sri Lankan Black Pepper (*Piper niger*) using cold Plasma – A Case Study, *First International Conference on Advances in Plasma Science and Technology, Coimbatore, India*, 13
2. Weerasinghe W.A.B.S., **De Silva A.B.G.C.J.**, Amunugoda P.N.R.J., Pitipanarachchi R. C. and Jayawardana T.M.D.A.

(2019). Microbial contamination of selected spice brands in Sri Lanka and non –thermal sterilization. *Proceedings of the 75th Annual Sessions of Sri Lanka Association for the Advancement of Science Part I*, 158

3. Amunugoda P.N.R.J., Weerasinghe W.A.B.S., **De Silva A.B.G.C.J.** and Pitipanaarachchi P.R. (2019). Efficacy of ultra violet radiation technique for non-thermal sterilization of spices. *Proceedings of 3rd International conference on Nutrition, Health and Lifestyle (NutriCon 2019)* A3-5
4. **De Silva A.B.G.C.J.**, Perera M.A.S., and Rathnasiri P.G. (2019). Investigation of reduced heat transfer due to fouling in multiple effect evaporators of Sugar manufacturing process using combined experimental and mathematical approach. *South Asian Conference for Multidisciplinary Research*, 45
5. **De Silva A.B.G.C.J.**, Weerasinghe W.A.B.S., Pitipanaarachchi R., de Alwis A., Gunawardana S.H.P, and Amunugoda P.N.R.J. (2019). Cold Plasma Sterilization for Selected Sri Lankan Spices, *4th Biennial Research Symposium, Industrial Technology Institute*, 18
6. Amunugoda P.N.R.J., **De Silva A.B.G.C.J.**, Weerasinghe W.A.B.S. and Pitipanaarachchi R. (2018). Dielectric barrier discharge atmospheric plasma: A review and Comparison. *Proceedings of 2nd International food conference on food quality, safety and security*, B1-10
7. Weerasinghe W.A.B.S., **De Silva A.B.G.C.J.**, Amunugoda P.N.R.J., Pitipanaarachchi R., and Jayaratne D.L. (2018). Microbiological Quality Assessment of a Selected Spice Brand in Sri Lanka. *Proceedings of Asian Symposium on Medicinal Plants, Spices and Other Natural Products*, 165
8. **De Silva A. B. G. C. J.**, Jayawardana, S.A.S., Yathursan S., De Silva P.H.L.U., Aponso D.M.K., Samarasekera J. K. R. R., and Gooneratne J. (2017). Assessment of physicochemical properties of Sri Lankan banana (*Musa spp*) flour, *9th International Research Conference, General Sir John Kotelawala Defence University*, 213
9. **De Silva A.B.G.C.J.**, Samaranyake M.D.W., Kariyawasam K.D.K.D.L., Gunewardana K.V. and Herath H. M. T. (2017). Establishment of the Laboratory Scale Processing Conditions for Developing Locally Grown Rice Based Glucose Syrup, *Proceedings of ITI Biennial Research Symposium*, 45
10. Amunugoda P.N.R.J., **De Silva A.B.G.C.J.**, and Sooriyarachchi A. (2017). Fluidized bed coupled vacuum heat pump dryer for high value dehydrated food production – A conceptual paper, *Proceedings of ITI Biennial Research Symposium*, 64
11. Amunugoda N., Jayasinghe D., **De Silva G.**, Sooriyarachchi A., and Samanthilaka S. (2017). Performance of heat pump dryer for perishable dehydration, *Second Asia-Pacific Conference on Multidisciplinary Research*, 38
12. Jayawardana S.A.S., Divisekara D.M.W.D., **De Silva A.B.G.C.J.**, Yathursan S., and Samarasekera J.K.R.R. (2017). Ensuring Human Health, Food and Nutritional Security through novel cereal and fruit-based prebiotics and probiotics, Indo Sri

Lanka Joint Research Program, First Symposium to Review the Progress,12

13. **De Silva A. B. G. C. J.**, Jayawardana S.A.S., Samarasekera J.R. R., and Gooneratne J. (2016). Assessment of physicochemical and functional properties of Sri Lankan Finger millet (*Eleusine coracana*) flour, *3rd International Conference on Multidisciplinary Approaches*,26
14. Divisekera D.M.W.D., **De Silva A.B.G.C.J.**, Goonaratne J., Jayawardana T.M.D.A. and Hewajulige I.G.N. (2016) *In vitro* antimicrobial activity of *Pediococcus pentocetus* isolated from rice variety, *Madathawalu, NSF Research Summit*, 125
15. Walliwala S.G., and **De Silva A.B.G.C.J.**, Production of natural vinegar from waste coconut water using high rate generator (2015). *Proceedings of International Symposium, Environment Management and Planning*, 36
16. Jayawardana, S.A.S., **De Silva A.B.G.C.J.**, Samarasekera, J.K.R.R, and Gooneratne J. (2015). Physicochemical and functional properties of Finger Millet (*Eleusine coracana*) flour and its potential use in food product development, *Proceedings of ITI Biennial Research Symposium*, 14
17. **De Silva A.B.G.C.J.**, Yathursan S., Jayawardana, S.A.S., Aponso D.M.K., Samarasekera J.R. R., and Gooneratne J. (2015). Study on amylose content, rheological properties and particle size distribution of Sri Lankan banana (*Musa spp*) flour, *Proceedings of ITI Biennial Research Symposium*,7
18. Samaranayake M.D.W., **De Silva A.B.G.C.J.**, Herath H. M. T., and Gunawardhana K.V.T. (2015). Optimization of liquefaction and saccharification times for laboratory scale production of glucose syrup from cassava starch, *Proceedings of ITI Biennial Research Symposium*,6
19. Walliwala S.G., **De Silva A.B.G.C.J.**, Amunugoda P.N.R.J., Jayasinghe G.D.D.R., Abesekara K.A.S, Jayawardana T.M.D.A., and Fernando I.M. (2015). Efficacy of microfiltration and thermal process technology for development of super health drink, *Proceedings of ITI Biennial Research Symposium*, 10
20. **De Silva A.B.G.C.J.**, Jayawardana S.A.S., Aponso D.M.K., Samarasekera J.K.R.R. and Gooneratne, J. (2015). Rheological properties and particle size distribution of Sri Lankan Finger Millet (*Eleusine coracana*) Flour, *8th International Research Conference, General Sir John Kotelawala Defence University*, 196
21. Walliwala S.G., **De Silva A.B.G.C.J.**, (2013). Enhancement of rate in Production of Natural Vinegar using Rotating Bed Generator, *Proceedings of Annual Research Symposium at Industrial Technology Institute*, 17
22. **De Silva A.B.G.C.J.**, Walliwala S.G., Achala H.H.K., and Samaranayaka M.D.W. (2013). Comparison of the potential of producing ethanol from locally grown cassava varieties, *Proceedings of Annual Research Symposium at Industrial Technology Institute*, 15

- **Co-Researcher-** Ensuring Human Health, food and nutritional security through novel cereal and fruit-based prebiotics, Funded by Indian Sri Lankan inter-governmental Science and Technology cooperation programme)
- **Co-Researcher** -Production of glucose syrup and high protein concentrates from locally available raw materials of broken rice, maize and manioc. (Funded by National Research Council, Sri Lanka)
- **Co-Researcher-** Formulation of therapeutic probiotic food as an alternative treatment for Helicobacter pylori infection (funded by National Science Foundation, Sri Lanka)
- **Co-Researcher**-Establishment of non-thermal processing technologies for blended fruit and vegetable juices (Funded by Treasury, Sri Lanka)
- **Co-Researcher**-Testing of heat pump dryer for perishables and cereal dehydration (Funded by Treasury, Sri Lanka.)

Ongoing projects (International and Local)

- **Co-Researcher**-Studies in Surface Sterilization of Spices using Non-Thermal Technologies (Principal Investigator – Funded by Indian Sri Lankan inter-governmental Science and Technology cooperation programme)
- **Co-Researcher** -Spray drying of selected fruits, vegetable juices and yam pulps and innovative spray dried powder-based products development (Funded by Treasury, Sri Lanka.)
- **Co-Researcher** -Development and scaling up of technologies of value-added products from selected underutilized fruits and investigation of their functional properties (Funded by Treasury, Sri Lanka.)