Dr. P.N.R.J.Amunugoda

Director

Food Technology Section

Qualifications	PhD in Food Drying , 2011 MPhil (Upgraded to PhD), 2007 B.Sc(Hons) in Agriculture, 1994
Contacts	Tel: +94112797346 Email:neville@iti.lk +94 718475734
Specialized Fields	Post-Harvest& Food Technology Agricultural Machinery and Food Process Engineering Agronomy, Soil Science & Farm/ Plantation Management Technology & Business Incubation Perishable/ Food Value & supply chain analysis/Management Bamboo, Rattan & Modern Forest Technology
Interest Areas	Development of novel food products and machineries Food chemistry and process engineering Flour and powder technology Plasma Science & application in Food/Herbal/ Material products development Non-thermal processing/ sterilization of food Food/Herbs/ Material Nano Technology Modern Forest Technology, Bioremediation
Publications	**Publications** 1. Rohitha Prasantha*, B.D. and **Amunogoda, P.N.R.J.** (2012) Moisture Adsorption Characteristics of Solar Dehydrated Mango and Jackfruit. Food and Bioprocess Technology: 2013, Vol 6, Iss 7, pp. 1720-1728 2. **Amunugoda, P.N.R.J*.,**Senanayake, N. S., Wilson Wijeratnam R. S. and K.D.G. Kulatunga: Quality Enhancement of Dehydrated Products through the Modification of Solar Tunnel Dryer for Continuous Operation in Rural Communities. International Journal of Energy Engineering 2013, 3(1): 7-14. 3. **P. N. R. J. Amunugoda *,** N. S. Senanayake, K. D. G. Kulathunga (2014) Solar rack dryer with supplementary heat storage and evaluation of dried food quality. International Journal of Scientific and Research Publications, Volume 7, Issue 7, July 2017 219 ISSN 2250-3153 pp. 219-224

4. Abeysekara, W.K.S.M., **Amunugoda, P.N.R.J**.Wijeratnam., S. W.&Elleperuma. C.K. (2007). Comparison of ginger varieties dried under different conditions for oil and oleoresin contents. Sri Lankan Journal of Agricultural Sciences.
5. D.S. Samarawickrama, C.H. Manoratne, **P. N.R.J. Amunugoda*** Production and characterization of black charcoal from Bambusa vulgaris (Yellow Bamboo) and potentiality for advance applications Front Adv Mat Res, 28-36 / 36
6. **P. N. R. J. Amunugoda*,**A.B.G.C.J.De Silva Different non-thermal plasma discharges and decontamination of natural microbial load in Sri i Lankan Black pepper (Piper niger) using atmospheric plasma jet and vacuum plasma - A review and comparison. IEEE Transactions and Journals (February 2017)– Special Issue – Selected papers from First International Conference on Advances in Plasma Science and Technology (Under reviewer's correction)

Communications: International Symposia

1. **P.N.R.J. Amunugoda*,** N.S. Senanayake, R.S. Wilson Wijeratnam., K.D.G. Kulathunga (2011). Quality Enhancement of Dehydrated Products through the Modification of Solar Tunnel Dryer for Continuous Operation in Rural Communities. International Conference and Utility Exhibition 2011 on Power and Energy Systems: Issues and Prospects for Asia (ICUE 2011). 28-30 September 2011 at Pattaya City, Thailand. p. 60.
2. **P.N.R.J .Amunugoda*.,** AMCU. Silva, R.S.W. Wijeratnaum. K.D.G. Kulathunga, N.S. Senanayake, and B.D.R. Prasshantha (2014): Solar dehydration of whole mushroom (Pleurotusostreatus) using modified solar tunnel dryer. SLCARP International Research Symposium August, 2014, Colomobo, Sri Lanka. p -89.
3. SMRS Semasinghe, Wichkramesinghe and **P. N. R. J. Amunugoda*** (2014): Institutional development for successful implementation of sanitary and phytosanitary (SPS) management in Sri Lanka. International Research Symposium on Postharvest Technology. p.
4. **P.N.R.J. Amunugoda*,** R. Pitipanaarachchi, S.A.S. Jayawardane, S.G. Walliwala, R.W.M. U. Niranjan (2015) Development of Ready to Serve Curry Leave Beverage. Proceedings of 5th International Research Symposium on Engineering Advancements, South Asian Institute of Technology and Medicine pp 281-282
5. **P.N.R.J. Amunugoda***, G.D.D.R. Jayasingh W.K.S.M. Abeysekara, T.M.D.A.ayawatdene, I.M. Fernando, R.A.U.J. Marapana, P.Ranasinghe (2016): Effect of thermal and nonthermal processing techniques on physio-chemical, microbiological nd sensory properties od ready to serve health beverage Proceedings of International Research Symposium on Engineering Advancements 2016 (IRSEA 2016) SAITM, Malambe, Sri Lanka PP- 183- 186.
6. **P.N.R.J. Amunugoda*,** G.D.D.R. Jayasinghe1, G. De Silva, A. Sooriarachchi, SenarathSamanthilaka. Performance of heat pump dryer for perishable dehydration. Proceedings of Second Asia Pacific Conference on Multidisciplinary Research (APMR2017) – 29.07. 2017- at Renuka City Hotel –Sri Lanka. P.38.
7. **P. N. R. J. Amunugoda*,** A. B. J. C. De Silva, B. Weerasignhe, R. Pitipanaarachchi: Dielectric Barrier Discharge Atmospheric Plasma: A review and comparison. Prceedings of 2 nd International Conference on Food Quality, Safety and Security (FoodquaLSS 2018) 25th-26th October 2018, Colombo, Sri Lanka. P.10.
8. B. Weerasignhe, A. B. J. C. De Silva, **P. N. R. J. Amunugoda*,** R. Pitipanaarachchi: Microbial quality assessment in selected spice brand collected from super market in Sri Lanka. Proceedings of Asian Symposium on Medicinal Plants, Spices and Other Natural Products XVI (ASOMPS XVI 2018 12th -15th Colombo, Sri Lanka. P.198.

9. **P. N. R. J. Amunugoda** (2018) Non-thermal technology for inactivation of microorganisms in RTS Beverages & startups/ Application of UV & cold plasma treatment on spices. Proceedings of 8 th International Food Convention (#IFCoN2018, India), 15 December, 2018. .P –VIII
10. **Amunugoda, P. N. R. J.*,**Weerasinghe W. A. B. S, De Silva A. B. G. C. J., Pitipanarachchi, R. (2019) Studies on effectiveness of Ultra violet radiation for surface sterilization of Spices. Proceedings of 3rd International Conference on Food, Nutrition, Health and Lifestyle, 07th - 08th November, 2019, Bangkok. p.5.
11. **P. N. R. J. Amunugoda*.,** De Silva A. B. G. C. J (2020). Decontamination of natural microbial load in Sri Lankan Black pepper (Piper niger) using Cold Plasma - A case study. Proceedings of First International Conference on advances in plasma science and technology (ICAPST-2020) February 12th -15th, 2020, Sri Shakthi Institute of Engineering Technology, Coimbatore, India.p.14.

Communication submitted – International Symposia

1. **P. N. R. J. Amunugoda***Incentivizing of Sri Lanka's Bamboo Sector Asia-PPacific Bamboo Symposium & Expo 2020 Nan Province, Thailand 11-13 November 2020.

Communications National Symposia

1. **P.N.R.J. Amunugoda*** (2010) Design improvement of curing drum by externally re-heated exhausted air re-circulation for black lime production. Proceedings of the 66th Annual Session-2010, Sri Lanka Association for the Advancement of Science. p.-38
2. **P.N.R.J. Amunugoda*** (2011). Development of curing drum with sandwich structure for dried ginger production. Proceedings of 67Annual Sessions of Sri Lanka Advancement of Science. p. 212.
3. **P.N.R.J. Amunugoda*,** N.S. Senanayake, R.S. Wilson Wijeratnam., K.D.G. Kulathunga (2011). Solar energy based drying technology for perishable commodities in Sri Lanka. Proceedings of the YSF 2011, NASTEC Sri Lanka. p-1.
4. **Amunugoda, P.N.R.J. ***, R. S. Wilson Wijeratnam, Senanayake, N. S. and K.D.G. Kulatunga (2013) Evaluation of solar tunnel dryer under local environmental conditions in Sri Lanka. Proceedings of 69th Annual Sessions of Sri Lanka Advancement of Science. Part I- p.
5. 5.**Amunugoda, P.N.R.J.,** R. S. Senanayake*, N. S and K.D.G. Kulatunga(2013). Performance evaluation of a solar rack dryer equipped with supplementary heat storage. Proceedings of 69th Annual Sessions of Sri Lanka Advancement of Science. Part I- P.
6. 6.Pitipanaarachchi, R*., Wilson Wijeratnam, R.S. and **Amunugoda, P.N.R.J**. (2013). Value added products from locally grown ginger: selection of suitable variety, maturity and location. Proceeding of 1st Annual Research Symposium of Industrial Technology Institute. p.
7. 7.**P.N.R.J. Amunugoda*.**AMCU. Silva and WKSM Abeysekara (2014): Applicable non-thermal technologies to maintain quality of perishable juices. Proceedings of 69th Annual Sessions of Sri Lanka Advancement of Science
8. G. Walliwala, A.B.G.C.J. De Silva, **P.N.R.J. Amunugoda***, G.D.D.R. Jayasinghe, K.A.S. Abeysekara, T.M.D.A. Jayawardane, I.M. Fernando (2015) Efficacy of microfiltration and thermal process technology for development of super health drinks. Proceeding of biannual research symposium of ITI. 2015. p -10.
9. Fernando, I.M., **Amunugoda, P. N. R. J.*,**Jayasinghe, G.D.D.R, Marapana R. A. U. J (2015) Efficacy of Microfiltration versus conventional thermal processing in the

production of a ready to serve Health Beverage, Proceedings of Uni-In Alliance 3rd February, 2016. University of Sri Jayawardanepura. p -40.

10. **P. N. R. J. Amunugoda***, GDDR Jayasinghe, R. Pitipanaarachchi, IGN Hewajulige (2015) Development of ready to serve Aloe vera (Alloebarbadensis Mill) beverage. Proceedings of 71th Annual Sessions of Sri Lanka Advancement of Science- 2015. p-111.
11. **P.N.R.J. Amunugoda***, D.T. Rathnayake, G.D.D.R. Jayasingh, A. Sooriarachchi, R.A.U.G. Marapana (2017) Efficacy of Ultraviolet Radiation as a non-thermal technology for reduction of microorganisms in watermelon(*Citrulluslanatus*) juice. Extended abstract – Proceedings of Food Techno 2017 Food Application for FoodTechno 2017 (3rd Annual Research Sessions of the IFSTSL).Pp- 16 -21.
12. **P.N.R.J. Amunugoda***, D.T. Rathnayake, G.D.D.R. Jayasinghe, A. Sooriarachchi,R.A.U.G.Marapana Efficacy of ultraviolet radiation as a non-thermal technique for reduction of microorganisms in Aloe vera (Aloe barbadensis Miller) and curry leaf (Murrayakoennigi)JuiceBiannual research symposium of ITI. 16th-17th Nov 2017. p-49.
13. **P.N.R.J. Amunugoda*,** A.B.G.C.J. De Silva, A.Sooriarachchi (2017) Fluidized bed coupled vacuum heat pump dryer for high value dehydrated food production- A conceptual paper. 3rd Biennial Research Symposium, 2017 ITI, Sri Lanka. p.64
14. **P. N. R. J. Amunugoda***, G. D. D. R. Jayasinghe1. G. R. Dunuwila, Review of heat pump dryers for food drying- Proceedings of 72th Annual Sessions of Sri Lanka Advancement of Science (SLAAS) -2017Part 1. P-139.
15. **P. N. R.J. Amunugoda*,** G.D.D.R. Jayasinghe (2018). The amount of active hydrogen in selected fruits, vegetables and herbal juices and changes with thermal and non-thermal treatments. Proceedings of 4th AnnuaL Research Sessions of IFSTSL. PP-49-54.
16. W.T.T.W. Wahalatahnthri, **P.N.R.J. Amunugoda*,** R.H.M.K. Rathnayake and R. Pitipanaarachchi (2018): Afflatoxin contamination of selected commercialized spices in Sri Lanka. Proceedings of 17th Agricultural Research Symposium (2018) 154-158.
17. Mapalagama, O.V., **Amunugoda, P. N. R. J.*,**Ranaweera, K. K. D. S., Weerasinghe, W. A. B. S., Binduhewa, A. M. C. U. (2019) Decontamination of Pineapple (Annanascomosus) juice using Ozone as a non-thermal sterilization method. Proceedings of 4th Biennial Research Symposium 2019. 17-18 December 2019, Malabe, Sri Lanka. P- 19.
18. De Silva A. B. G. C. J., Weerasinghe W. A. B. S., Pitipanarachchi, R., De AlwisAjith., Gunawardana, S. H. P., and **Amunugoda, P. N. R. J.*** (2019) Cold plasma sterilization for selected Sri Lankan spices. Proceedings of 4th Biennial Research Symposium 2019. 17-18 December 2019, Malabe, Sri Lanka. PP 18.
19. W.A.B.S. Weerasinghe, A. B. G. C. J. De Silva, **P.N.R. J. Amunugoda***, R. Pitipanarachchi, T.M.D. A. Jayawardana(2019). Microbial contamination of selected spice brands in Sri Lanka, Proceedings of Sri Lanka Association of Advancement of Science Annual Symposium, 2019. p. 158.

Major Projects Undertaken

1. **Co- Investigator :** Development of low cost continuous dryer- SL CARP project -1.4 M LKR2001-2004
2. **Co- Investigator :-**Construction of dual energy drier at VIDATHA Centre –-Treasury Granted project - 0.7MLKR 2005-
3. **Principle Investigator:** Development of rack dryer for Black Lime production—ITI funded project -0.15M LKR -2008-2009

4. **Co Investigator:**Effective processing of ginger –Treasury Grant Project - 6 MLKR - 2006-2009
5. **Co Investigator:**-Extending storage life of pineapples for export-– Contract Research Project Company unded - 01 MLKR - 2012-2013
6. **Principle Investigator:**–Establishment of non -thermal processing technologies for perishable juices - Treasury Grant Project - 4Million LKR - 2013-2016
7. **Principle inciple Investigator:** – Testing of heat pump dryer for fruits, vegetables, spices an and cereal dehydration - Treasury Grant project – 2.1 M LKR- 2015-2017
8. **Co Investigator:** Fabrication of automated coconut scraper machine- Treasury Grant Project 0.7MLKR- 2016-2017
9. **Principle Investigator:** Indo Sri Lanka Joint Research Project -2017- on "Studies in surface sterilization of spices using non-thermal processes – Ministry of Science Technology &Research Funded project for Sri Lankan party - 11.8 MLKR for Sri Lankan side- 2017-2019

Ongoing Project

- **Principle Investigator :**- Spray drying of selected fruits, vegetable juices and yam pulps and innovative spray- Treasury Grant Project – 5MLKR, 2019- 2022
- **Principle Investigator:** Curing of bamboo culm that suit to tropical environment and bamboo product development. Treasury Grant Project -6.1 MLKR – 2018-2021

Proposals Submitted (2019-2020)and pending for approval

- **Principle Investigator:**Synthesis of Chitosan/Epigallocatechin gallate (EGCG) biocompatible nano-sensor for direct eradication of pathogenic bacteria in fruit juices, production of high nutritional extruded snack enriched with antiviral volatile herbal extracts for throat persisted viral targeting and production of nanoparticle steam inhaler against upper respiratory tract pathogenic colonization –National Science Foundation (NSF 2020) Under call for proposal – Combat and mitigation Covid 19 Outbreak
- **Co-Investigator**: Full proposal on "Promote green economy through the development of sustainable cluster-based Bamboo Value Chain development" to European Commission, SWITHASIA and Central Asia II – Under the theme of promoting sustainable consumption and pattern

Total Value – EUR 2,800,000 - 2019