

# J. M. NAZRIM MARIKKAR

## CURRICULUM VITAE



<b>1. Name in Full:</b>	Mohammed Nazrim Marikkar
<b>2. Title:</b>	Dr.
<b>3. Date of Birth</b>	8 <sup>th</sup> January, 1967
<b>4. Gender:</b>	Male
<b>5. Job Designation:</b>	Associate Research Professor
<b>6. Official Address:</b>	National Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka
<b>7. Home Address:</b>	29/1, Thakkiya Road, Poruthota, Kochchikkade Sri Lanka
<b>8. Academic Qualifications:</b>	<p>PhD Degree in Food Chemistry and Biochemistry (2004); Faculty of Food Science &amp; Technology/ Universiti Putra Malaysia</p> <p>BSc (Hons) Degree in Chemistry (Major) with Physics and App. Math as subsidiary (1994); Faculty of Science/ University of Colombo Sri Lanka</p> <p>General Certificate of Education (Advanced Level) in Science Stream (1986); Nazriya Central College, Chilaw, Sri Lanka</p>
<b>9. Professional Membership:</b>	<p>Member of the Institute of Chemistry, Ceylon till now</p> <p>Member of the Malaysian Institute of Food Technology till now</p>
<b>10. Previous Employment Record:</b>	<p>Assistant Professor (Food Science), International Islamic University Malaysia from 2015 to 2017</p> <p>Senior Lecturer (Biochemistry), Universiti Putra Malaysia from 2011 to 2015</p> <p>Research Fellow, Universiti Putra Malaysia from 2009 to 2011</p> <p>Post-Doctoral Researcher, Universiti Putra Malaysia from 2008 to 2009</p>

## **11. Expert Reviewer Appointments:**

- (a) Thesis examiner – Two Master theses of Universiti Putra Malaysia & International Islamic University Malaysia
- (b) PhD & MSc Proposal assessor - Universiti Putra Malaysia, Universiti Teknologi Malaysia & International Islamic University Malaysia
- (c) Peer reviewer for several scientific journals; Food Chemistry, J Food Biochemistry, etc.
- (d) Book proposal assessor for John-Wiley & Sons Publisher - 2011
- (e) Poster evaluator at the International Conference on Advances in Plant Biochemistry & Biotechnology- 2014

## **12. Research Projects, Postgraduate Supervision, Article Publications and Conference Proceedings:**

### **(a) Research Projects:**

1. RIGS 2016-010-0013; Enhancement of antimicrobial properties of chitosan edible film using different bioactive biomolecules; Principal Investigator. Source of Funding: IIUM, Malaysia
2. RIGS 2016-010-0011; Production and quality parameters of halal local ingredients and natural products; Co-Investigator. Source of Funding: IIUM, Malaysia
3. RIGS 2015-010-0010; Development and validation of a method to detect polyaromatic hydrocarbons in locally processed foods; Principal Investigator. Source of Funding: Ministry of Higher Education, Malaysia
4. RIGS 2015-011-0011; Characterization of halal and non-halal animal bones as raw material for gelatin and gelatin based products; Co-Investigator. Source of Funding: Ministry of Higher Education, Malaysia
5. GP-IPS/2014/9446100; Study of anti diabetic potential of different bran of Malaysian rice varieties; Principal Investigator. Source of Funding: UPM, Malaysia
6. FRGS/2/2013/SG01/UPM/02/5; The study of  $\alpha$ -amylase inhibitory potential of rice bran extracts of some Malaysian rice varieties; Principal Investigator. Source of Funding: Ministry of Higher Education, Malaysia
7. 02-02-2012-2310RU; Profiling of the alcohol properties of sap syrups of local crops; Co-Investigator. Source of Funding: UPM, Malaysia
8. GP-IBT/2013/9409200; Formulation of E471 emulsifiers using oil recovered from guava seed wastes; Principal Investigator. Source of Funding: UPM, Malaysia
9. 02-02-2012-2036RU; Development of palm and soybean based fat mixtures as lard substitute in cookies; Principal Investigator. Source of Funding: UPM, Malaysia
10. 05-02-2012- 2141RU; Prebiotic potential of dietary fibers derived from byproducts of coconut milk; Co-Investigator. Source of Funding: UPM, Malaysia
11. 02-02-2012-2035RU; Development of Engkabang-canola oil blend as lard substitute in meat products; Principal Investigator. Source of Funding: UPM, Malaysia
12. FRGS-5524087; Formulation of plant-based substitutes for animal-based emulsifiers; Principal Investigator. Source of Funding: Ministry of Higher Education, Malaysia
13. RUGS-91894; Formulation of fat substitutes for lard shortening and lard olein; Principal Investigator. Source of Funding: UPM, Malaysia

### **(b) Postgraduate Supervision:**

1. **PhD (2015)**; Name of Candidate: Yanty Noor Ziyanna Bt Abdul Manaaf; Thesis title: Formulation of fat substitute simulating the properties of lard; University: UPM, Malaysia
2. **MSc (2017)**; Name of Candidate: Khadijat Adokola; Thesis title: The study of  $\alpha$ -amylase inhibitory potential of bran extracts of coconut and other beans; University: UPM, Malaysia
3. **MSc (2016)**; Name of Candidate: Tanko Aboobakar Sadiq; Thesis title: The study of  $\alpha$ -amylase inhibitory potential of rice bran extracts of some Malaysian rice varieties; University: UPM, Malaysia
4. **MSc (2016)**; Name of Candidate: Noor Raihana Abdul Rahman; Thesis title: Development of pink-guava seed oil-palm stearin blend as lard substitute; University: UPM, Malaysia
5. **MSc (2016)**; Name of Candidate: Nur 'ain Najwa bt Mohd Nor; Thesis title: Extraction and characterization of non-digestible polysaccharides from coconut by-products and their prebiotic potential; University: UPM, Malaysia
6. **MSc (2014)**; Name of Candidate: Nur Illyin Bt Roslan; Thesis title: Development of Engkabang-canola oil blend as a lard substitute; University: UPM, Malaysia
7. **MSc (2013)**; Name of Candidate: Nina Naquiah Bt Ahmad Nizar; Thesis title: Application of GC-MS and EA-IRMS techniques to distinguish lard from selected animal fats before and after chemical glycerolysis; University: UPM, Malaysia
8. **MSc (2012)**; Name of Candidate: Nasyrah Bt Abdul Rahman; Thesis title: Characterization of mono and di-acylglycerol from plant and animal sources by gas chromatography and differential scanning calorimetry; University: UPM, Malaysia

**(c) Article Publications (from 2010 onward):**

1. Raihana, A.R., **J.M.N. Marikkar\***, I. Jaswir, A.F. Nurrulhidaya, and M.S. Miskandar. Effect of pink guava oil-palm stearin blends and lard on dough properties and cookies quality. *Int. Food Rese J.* (In press) (2018). (*Scopus Publication*)
2. **Marikkar, J.M.N.** and Noorziyanna yanty. Fats, Oils and Emulsifiers. In: *Preparation and Processing of Religious and Cultural Foods*, Eakub Ali and Nina Naquiyah (Editors). Elsevier Publishers (2018) (In Press)
3. Raihana, A.R., **J.M.N. Marikkar\***, I. Jaswir, A.F. Nurrulhidaya, and M.S. Miskandar. Comparison of composition, thermal behaviour and polymorphism of pink guava (*Psidium guajava*) seed oil-palm stearin blends and lard. *Int. Food Rese J.* (In press) (2018). (*Scopus Publication*)
4. Adekola, K.A., A.B. Salleh, U.H. Zaidan, A. Azrina, E. Chiavaro, M. Peciulli, and, **J.M.N. Marikkar\***. Total phenolic content, antioxidative and antidiabetic properties of coconut (*Cocos nucifera* L) testa and selected bean seed coats. *Ital J. Food Sc.* 29: 742 – 753 (2017) (*ISI-Cited Publication*)
5. Nur Ain Najwa, M.N., M. Shuhaimi, **J.M.N. Marikkar**, A.M.M. Yazid, and A. Arbakariya. Defatted coconut residue crude polysaccharides as potential prebiotics on proliferation and acidifying activity of probiotics in *invitro*. *J. Food Sc Technol.* 54: 164–173 (2017). (*ISI-Cited Publication*)
6. Maha I. A., M.E.S. Mirghani, **J.M.N. Marikkar**, A.M. Hammed, and N.A. Kabbashi. The use of analytical techniques for qualitative differentiation of lipids extracted from cheese samples and lard. *J. Food Agric Environ* 15: 20-25 [doi.org/10.1234/4.2017.5456](https://doi.org/10.1234/4.2017.5456) (2017). (*Scopus indexed Publication*)
7. Tanko, A.S., **J.M.N. Marikkar\***, A. Salleh, A. Azrina and M. Jivan. Evaluation of brans of different rice varieties for their anti-oxidative and anti-hyperglyceamic potentials. *J. Food Biochem.* 41: e12295, doi: 10.1111/jfbc.12295 (2017). (*ISI-Cited Publication*)
8. Nina Naqiyah, A.N., **J.M.N. Marikkar\***, M.E.S. Mirghani, A.F. Nurulhidaya and N.A.M. Yanty.

- Differentiation of fractionated components of lard from other animal fats using different analytical techniques. *Sains Malaysiana* 46: 209–216 (2017). (ISI-Cited Publication)
9. Yanty, N.A.M., **J.M.N. Marikkar**, M.S. Miskandar, F. Van Bockstaele, K. Dewettinck, B.P. Nosontoro. Compatibility of selected plant-based shortenings as lard substitute: microstructure, polymorphic forms and textural properties. *Grasas Y Aceites*. 68(1): e181 (2017). (ISI-Cited Publication)
  10. **Marikkar, J.M.N.\***, N.A.M. Yanty, M. Peciulli, and E. Chiavaro. Chemical composition and thermal behaviour of tropical fat fractions from solvent-assisted process: a review. *Ital J. Food Sc.* 29: 19–37 (2017) (ISI-Cited Publication)
  11. Yanty, N.A.M., **J.M.N. Marikkar**, M. Shuhaimi and M.S. Miskandar. Composition and thermal analysis of ternary mixtures of avocado fat:palm sterin:cocoa butter (Avo:PS:CB). *Int. J. Food Prop.* 20: 465–474 (2017). (ISI-Cited Publication)
  12. **Marikkar, J.M.N.\***, T.S Jen, A. Salleh, A. Azrina and M. Shukri. Evaluation of selected banana (*Musa sp.*) flower varieties for their anti-oxidative and anti-hyperglycemic potentials. *Intel Food Research J.* 23: 2001–2008 (2016). (SCOPUS Publication)
  13. Nina Naqiyah, A.N., **J.M.N. Marikkar\***, and M. Shuhaimi. Differentiation of partial acylglycerols derived from different animal fats by GCMS and EA-IRMS techniques. *Grasas Y Aceites*. 67 (2): e136 (2016). (ISI-Cited Publication)
  14. **Marikkar J.M.N.\***, M.E.S. Mirghani, and I. Jaswir. Application of chromatographic and infra-red spectroscopic techniques for detection of adulterations in food lipids: a review. *J. Food Chem. Nano.* 2: 32–41 (2016).
  15. **Marikkar, J.M.N.\*** DSC as a valuable tool for the evaluation of oils and fats adulterations. In: *Differential Scanning Calorimetry: Applications in Fat and Oil Technology*, Emma Chiavaro (Editor). CRC Press, Taylor & Francis Group, Florida, USA. pp. 159–178. ISBN: 9781466591523 (2015)
  16. Raihana, A.R., **J.M.N. Marikkar\***, A. Ismail, and S. Musthafa. A review on food values of selected fruits' seeds. *Int. J. Food Prop.* 18: 2380–2392 (2015). (ISI-Cited Publication)
  17. Yanty, N.A.M., **J.M.N. Marikkar\***, B.P. Nusantoro, K. Long, and H.M. Ghazali. Physico-chemical characteristics of papaya (*Carica papaya L.*) seed oil of the Hong Kong/ Sekaki variety. *J. Oleo Sc.* 63: 885–892 (2014). (ISI-Cited Publication)
  18. **Marikkar, J.M.N.\*** and Sohel Rana. Use of differential scanning calorimetry to detect canola oil (*Brassica napus L.*) adulterated with lard stearin. *J.Oleo Sc.* 63: 867–873 (2014). (ISI-Cited Publication)
  19. Yanty, N.A.M., **J.M.N. Marikkar\***, M. Shuhaimi, and M.S. Miskandar. Composition and thermal analysis of binary mixture of Mee fat and palm stearin. *J Oleo Sci.* 63: 325–332 (2014). (ISI-Cited Publication)
  20. Nasyrah, A.R., **J.M.N. Marikkar\***, and M.H. Dzulkifyly. Comparative thermal characteristics and fatty acid composition of Mono- and Diacylglycerols of lard and some commercial emulsifiers. *Int. J. Food Prop* 17: 1116–1125 (2014). (ISI-Cited Publication)
  21. Yanty, N.A.M., **J.M.N. Marikkar\***, and S.M. Abdulkarim. Determination of type of fat ingredient in some commercial biscuit formulation. *Int. Food Res. J.* 21: 277–282 (2014). (ISI-Cited Publication)
  22. Nur Illiyin, M.R., **J.M.N., Marikkar\***, M.K. Lok, Shuhaimi, M., Mahiran, B., and M.S. Miskandar. Interesterification of engkabang (*Shorea macrophylla*) fat - canola oil blend with lipase from *candida antarctica* to simulate the properties of lard. *J Oleo Sci.* 63: 39–46 (2014) (ISI-Cited Publication)
  23. **Marikkar, J.M.N.\***, and N.A.M. Yanty. Effect of chemical and enzymatic modifications on the identity characteristics of lard-Review. *Int. J. Food Prop.* 17: 321–330 (2014) (ISI-Cited Publication)

Publication)

24. Yanty, N.A.M., **J.M.N. Marikkar\***, and M. Shuhaimi. Effect of fractional crystallization on composition and thermal properties of engkabang (*Shorea macrophylla*) seed fat and cocoa butter. *Grasas Y Aceites*. 64: 546– 553 (2013) (ISI-Cited Publication)
25. Nur Illiyin, M.R., **J.M.N. Marikkar\***, Shuhaimi, M., Mahiran, B., and Miskandar, M.S. A comparison of the thermo physical behavior of Engkabang (*shorea macrophylla*) seed fat - canola oil blends and lard. *J. Am. Oil Chem. Soc.* 90: 1485 – 1493 (2013). (ISI-Cited Publication)
26. Yanty, N.A.M., **J.M.N. Marikkar**, and Ghazali, H.M. Physico-chemical characterization of the fat from red-skin rambutan (*Nephellium lappaceum* L.). *J Oleo Sci.* 63: 335 – 343 (2013). (ISI-Cited Publication)
27. Nina Naqiyah, A.N., **J.M.N. Marikkar\***, and M.H. Dzulkifly. Differentiation of lard, chicken fat, beef fat, and mutton fat by GCMS and EA-IRMS techniques. *J Oleo Sci.* 63: 459 – 464 (2013). (ISI-Cited Publication)
28. **Marikkar, J.M.N.\***, D. Saraf and M.H. Dzulkifly. Effect of fractional crystallization on composition and thermal behavior of coconut oil. *Int. J. Food Prop.* 16: 1284–1292 (2013). (ISI-Cited Publication)
29. **Marikkar, J.M.N.\***, and W.S. Madhrapperuma. Coconut. In: Tropical and Subtropical Fruits: Postharvest Physiology, Processing and Packaging, Muhammed Siddiq (Editor). John-Wiley Publishing Co., Ames, Iowa, USA. pp. 159–178. ISBN: 978-0-8138-1142-0 (2012)
30. Yanty, N.A.M., **J.M.N. Marikkar\***, and Che Man, Y.B. Effect of fractional crystallization on composition and thermal characteristics of avocado (*Persea americana*) butter. *J Therm Anal and Calorim.* 111: 2203–2209 (DOI: 10.1007/s10973-011-2055-y) (2013). (ISI-Cited Publication)
31. **Marikkar, J.M.N.\*** and N.A.M. Yanty. Seed fat from *Madhuca longifolia* as raw material for halal alternative fat. *Borneo Sci.* 31: 84 – 94(2012).
32. Nasyrah, A.R., **J.M.N. Marikkar\***, and M.H. Dzulkifly. Discrimination of plant and animal derived MAG and DAG by principle component analysis of fatty acid composition and thermal profile data. *Int. Food Res. J.* 19 (4): 1497–1501 (2012). (SCOPUS Publication)
33. Yanty, N.A.M., **J.M.N. Marikkar\***, and Miskandar, M.S. Comparing the thermo-physical properties of lard and selected plant fats. *Grasas Y Aceites.* 63: 328– 334 (2012) (DOI: 10.3989/gya.23712). (ISI-Cited Publication)
34. **Marikkar, J.M.N.\***, and A.R. Nasyrah. Distinguishing coconut oil from coconut pairing oil using principle component analysis of fatty acid data. *Int. J. Coco Res. Dev.* 28 (1): 9–13 (2012).
35. **Marikkar, J.M.N.\***, M.H. Dzulkifly, M.Z. Nor Nadiha, and Y.B. Che Man. Detection of animal fat contaminations in sunflower oil by differential scanning calorimetry, *Int. J. Food Prop.* 15: 683– 690 (2012). (ISI-Cited Publication)
36. Yanty, N.A.M., **J.M.N. Marikkar\***, and K. Long. Effect of varietal differences on composition and thermal behavior of avocado oil. *J. Am Oil Chem. Soc.* 88: 1997–2003 (2011) (10.1007/s11746-011-1877-x). (ISI-Cited Publication)
37. **Marikkar, J.M.N.\***, S.L. Ng, and Y.B. Che Man. Composition and thermal analysis of lipids from pre-fried chicken nuggets. *J. Am Oil Chem. Soc.* 88: 749–754 (2011). (DOI 10.1007/s11746-010-1734-3). (ISI-Cited Publication)
38. **Marikkar, J.M.N.\***, and H.M. Ghazali. Effect of *Moringa oleifera* oil blending on fractional crystallization behavior of palm oil. *Int. J. Food Prop.* 14: 1049–1059 (2011). (DOI: 10.1080/10942910903580892). (ISI-Cited Publication)
39. Yanty, NAM, **J.M.N. Marikkar\***, Y.B. Che Man, and K. Long. Composition and thermal analysis of lard stearin and lard olein. *J Oleo Sci.* 60: 333–338 (2011). (ISI-Cited Publication)
40. **Marikkar, J.M.N.\***, H.M. Ghazali, and K. Long. Composition and thermal characteristics of *Madhuca longifolia* seed fat and its solid and liquid fractions. *J. Oleo Sci.*, 59: 7–14 (2010). (ISI-

*Cited Publication)*

**(Refer to: Nazrim Marikkar Google Scholar Citations for the full list)**

**(d) Conference Proceedings (from 2010 onward):**

1. Yanty, N.A.M., Desa, M.N.M., Hanapi, U.K., **Marikkar, J.M.N.**, Nurrulhidayah, A.F., Nusantoro, B.P. Health benefits of palm oil. In *Proceedings of the Palm International Nutra-Cosmeceutical Conference-2017*, Putrajaya, 31<sup>st</sup> July -1<sup>st</sup> August, 2017.
2. Sara Babiker, A.K., M.E.S. Mirghani, Md Zahankir Alam and **J.M.N. Marikkar**. A study on the characterization of Baobab (*Adansonia digitata*) fruit seed oil. In *Proceedings of the International Conference on Biotechnology Engineering-2016*, Kuala Lumpur, 25–27, July, 2016.
3. **Marikkar, J.M.N.** A.R. Nasyrah, M.E.S. Mirghani, and M.H. Dzulkifly. Enzymatic production of mono- and di-acylglycerols from Engkabang fat as halal food ingredient. In *Proceedings of the International Conference on Biotechnology Engineering-2016*, Kuala Lumpur, 25–27, July, 2016.
4. Jen, T.S., **J.M.N. Marikkar\***, A. Salleh, and M. Shukri. Anti-hyperglycemic and anti-oxidative potentials of Malaysian banana (*Musa paradisiaca*) flower extracts. In *Proceedings of the 26<sup>th</sup> Intersociety Biochemistry Seminar of the Malaysian Society for Biochemistry and Molecular Biology*, Monash University, Malaysia. 14, May, 2015.
5. Tanko, A.S., **J.M.N. Marikkar\***, A. Salleh, A. Azrina and M. Jivan. Anti-diabetic and anti-oxidative potentials of commercial and traditional bran extracts of Malaysian rice varieties. In *Proceedings of the 40<sup>th</sup> Annual Conference of the Malaysian Society for Biochemistry and Molecular Biology*, IOI Resort Putrajaya, Malaysia. 10-11, June, 2015.
6. Raihana, A. R. and **Marikkar, J.M.N.** Physico-chemical characterization of the seed oils of two Malaysian guava (*Psidium guajava*) varieties. In *Proceedings of the Malaysia International Conference on Oils and Fats*, Bangi, Malaysia. 20-21, August, 2014.
7. Yanty, N.A.M., **Marikkar, J.M.N.**, Nusantoro, B.P., Van Bockstaele, F., and Dewettinck, K. Comparison of palm-based and lard shortenings on cookie dough properties and cookies quality. In *Proceedings of Food structure and functionality forum symposium*, Amsterdam, The Netherlands, 30 March- 02 April, 2014.
8. Nur Illiyin, M.R., **J.M.N., Marikkar**, M.K. Lok, Shuhaimi, M., Mahiran, B., and Miskandar, M.S. Comparison of thermophysical properties of lard and engkabang (*Shorea macrophylla*) fat - canola oil blend interesterified with *Mucor Meihei* lipase. In *Proceedings of the International Functional Food Conference*, Putrajaya, Malaysia, August- 18–20, 2013.
9. **Marikkar, J.M.N.** and Nina Naqiyah, A.N. Differentiation of pork from other meat species by lipid analysis methodologies. In *Proceedings of the 15<sup>th</sup> Food Innovation Asia Conference-2013*, Bangkok, 13–14, June, 2013.
10. Yanty, N.A.M., Miskandar, M.S., and **Marikkar, J.M.N.** Palm oil based substitutes for lard based fat derivatives. In *Proceedings of the MPOB International Palm Oil Conference (PIPOC 2011)*,

Kuala Lumpur, 15–17, November, 2011.

11. Yanty, N.A.M. and **Marikkar, J.M.N.** Isolation of hard butters from Malaysian avocado oil. In Proceedings of the *2<sup>nd</sup> Food Science & Technology Conference*, Mekong, Vietnam, 9–12, November, 2011.

### **13. University Teaching Records:**

#### **(a) Postgraduate Level:**

1. Coordinator for Food Industry Science (HART 6201); International Islamic University Malaysia
2. Coordinator for Research Methodology (HART 6103); International Islamic University Malaysia

#### **(b) Undergraduate Level:**

1. Coordinator for Food Biochemistry (BCH 4304); University Putra Malaysia
2. Coordinator for Nutritional Biochemistry (BCH 4305); University Putra Malaysia
3. Coordinator for Analysis of Biomolecules (BCH 3201); University Putra Malaysia
4. Co-lecturer for Enzymology (BCH3102); Universiti Putra Malaysia

### **14. Awards and Fellowships:**

1. Vice Chancellor's Excellent Service Award for 2012, 2013 & 2014 given by the Office of the Vice Chancellor, Universiti Putra Malaysia
2. Malaysia Technology Expo 2013; Bronze Medal given by Malaysian Association of Research Scientists
3. PRPI2011 Research Exhibition 2011; Gold medal given by Research Management Centre, University Putra Malaysia
4. Presidential Award for Research in 2010 given by the President of the Democratic Republic of Sri Lanka.
5. Post-Doctoral Fellowship in 2008 given by University Putra Malaysia
6. Graduate Research Assistantship in 2003 given by University Putra Malaysia
7. Graduate Fellowship in 2000 given by Asian Development Bank for Doctoral Studies
8. Research Student Fellowship in 1995 given by Institute of Fundamental Studies for Masters Studies

### **15. Referees:**

1. Prof Dr. Lalith Jayasinghe; Senior Research Professor; National Institute of fundamental Studies, Kandy, Sri Lanka ([ulbj2003@yahoo.com](mailto:ulbj2003@yahoo.com))
2. Prof. Dr. M. I. M. Mowjood; Professor; Department of Agricultural Engineering; University of Peradeniya, Sri Lanka ([mowjood2010@gmail.com](mailto:mowjood2010@gmail.com))
3. Prof. Dr. Hasanah Mohd Ghazali; Senior Professor; Department of Food Science, Universiti Putra Malaysia, Serdang, Malaysia ([hasanah@upm.edu.my](mailto:hasanah@upm.edu.my))