






NORA SALINA MD SALIM

Lecturer
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

 nora.salina@umt.edu.my
 +609 668 3206
 +609 668 3193

QUALIFICATIONS

- Doctor of Philosophy (Bioresource Engineering), McGill University, Canada
- Master of Science (Microwaves), Universiti Putra Malaysia, Malaysia
- Bachelor of Science (Hons.) Physics , Universiti Putra Malaysia, Malaysia

FIELD OF RESEARCH

- Food Physics
- Drying Technologies
- Osmotic Dehydration
- Microwave Processing

RESEARCH INTEREST

Physics play a pivotal role in supporting the food industry, which in turn helps in improving the food security, minimizing waste and environmental impact, enhancing the productivity and enable the development of new product. This understanding becomes a turning point for Dr. Nora Salina to explore more on the relationship between physics and food. She began her research with the development of glucose detection technique based on the dielectric properties at microwave frequency. Her research has expanded to valorize the biological materials for development of dried products using hybrid drying. More specifically, she deals with the food physics aspects, the heat and mass transfer, mathematical modelling of the drying process, the dielectric behaviour and also the techno-economical study. She also has worked on the design and development of dewatering equipment system for hydrodynamic studies on the mass transfer process. Further, her research activities touched on the application of hydrocolloid coating in enhancing the food processing performance.

RESEARCH PROJECTS

- Elucidation on Alginate-Based Edible Coating on Osmotic Transport Mechanism, Physico-Chemical Properties and Cell Structure of Ginger.
- The Structural and Physicochemical Characteristic of Calamondin *Citrus microcarpa* Peel Powder Using Ball Milling Method
- Temperature Calibration Analysis of Horizontal Airflow Food Dehydrator System Using R Software
- Structural Characteristics of Carboxymethyl Cellulose Coating and Osmotic Dehydration of Freeze Dried *Zingiber officinale* Slices
- Physicochemical Properties Of Carboxymethyl Cellulose Coating And Osmotic Dehydration On Freeze Dried *Zingiber officinale* Slices
- Microwave Puffing Characteristics Of Paddy
- Microwave Pretreatment on Osmotic Dehydration of White Radish (*Raphanus sativus L.*)
- Ultrasonic Pre-treatment on Osmotic Dehydration of White Radish (*Raphanus sativus L.*)
- Influence of Different Osmotic Agent on Osmotic Dehydration of White Radish (*Raphanus sativus L.*)

EXPERT LINKAGES

- McGill University, Canada
- University of Guelph, Canada
- Universiti Sains Islam Malaysia
- Universiti Teknologi Malaysia
- Universiti Putra Malaysia
- Universiti Tun Hussein Onn Malaysia

PROFFESIONAL MEMBERSHIP

- Malaysian Institute of Food Technology (MIFT)

GRANTS

Project	: Elucidation on Alginate-Based Edible Coating on Osmotic Transport Mechanism, Physico-Chemical Properties and Cell Structure of Ginger.
Position	: Project Leader
Grant Name	: The Fundamental Research Grant Scheme for Research Acculturation of Early Career Researchers (FRGS-RACER)
Status	: Active
Amount	: RM 60,000

Project : Evaluation of Physico-chemical and Mechanical Properties of *Zingiber officinale* Using CMC as Edible Coating Material
Position : Project Leader
Grant : Talent and Enhancement Research Grant Award (TAPE-RG)
Name
Status : Completed
Amount : RM 20,000

AWARDS

- Silver medal in the Virtual Material Technology Challenge 2020 (v-MTC 4.0), Selangor, Malaysia. (Project Title: Alginate-Based Edible Composite Coating Improves the Mass Transfer of Osmotic Dehydration Process on Ginger Slices).
- Best Presenter Award in the Materials and Environment Science Symposium 2020 (MatESS2020), Terengganu, Malaysia.
- Gold medal in the Week of Innovation 2019 (MPI'19), Terengganu, Malaysia. (Project Title: CMC Coated Osmo-Freeze Dried Zingiber Officinale Slices).
- Bronze medal in the Week of Innovation 2018 (MPI'18), Terengganu, Malaysia. (Project title: Microwave Puffed Rice).
- Silver medal in the Week of Innovation 2017 (MPI'17), Terengganu, Malaysia. (Project title: Continuous Flow of Osmotic Dehydration Equipment System).
- Ministry of Higher Education Malaysia Scholarship- Ph.D. study
- Graduate Research Enhancement and Travel Award, McGill University, Canada
- 1st Place - Outstanding poster presentation at Northeast Agricultural and Biological Conference (NABEC), Ontario, Canada
- Graduate Excellent Fellowship, McGill University, Canada
- Best Abstract Award at National Physics Conference Proceedings (PERFIK), Malacca, Malaysia (2009).
- Ministry of Higher Education Malaysia Scholarship-M.Sc. study

PUBLICATIONS

Journal Article

1. **Salim, N.S.M.**, Kamaruddin, K.H., Mohd Ikmar Nizam, M.I. 2020. Effects of process variables on mass transfer during osmotic dehydration of ginger slices using carboxymethyl cellulose as an edible coating material. *Journal of Sustainability Science and Management*, **15**(2), 12-23
2. Muhamaruesa, N.H.M., Kamarudin, K.H., Isa, M.I.N.M., **Salim, N.S.M.** 2020. Effect of drying temperature on electrical impedance characteristic of ginger slices. *International Agrophysics*, **34**(2), 281-287
3. **Md Salim, N.S.**, Garièpy, Y. & Raghavan, V. (2019). Effects of Processing on Quality Attributes of Osmo-Dried Broccoli Stalk Slices Food Bioprocess Technology, 12: 1174. <https://doi.org/10.1007/s11947-019-02282-2>

4. Abdul Rahman H., Salleh M.H.M., and **Md Salim N.S.** (2019) Effect of moisture content and microwave power on puffed yield and expansion volume of Malaysian paddy variety MR297. *Malaysian Applied Biology*, 48 (1). pp. 139-143. ISSN 0126-8643
5. **Md Salim, N. S.**, Gariépy, Y., & Raghavan, V. (2017). Hot Air Drying and Microwave Assisted Hot Air Drying of Broccoli Stalk Slices (*Brassica oleracea* L. Var. *Italica*). *Journal of Food Processing and Preservation*, 41(3). doi:10.1111/jfpp.12905
6. **Nora S. M. S.**, Ashutosh S., Vijaya R. (2017). Potential Utilization of Fruit and Vegetable Wastes for Food through Drying or Extraction Techniques. *Novel Technique in Nutrition and Food Science*. 1(6). NTNF.000506. 2017.
7. **Salina Md Salim, N.**, Kudakasseril Kurian, J., Gariépy, Y., & Raghavan, V. (2016). Application and the techno-economical aspects of integrated microwave drying systems for development of dehydrated food products. *Japan Journal of Food Engineering*, 17(4). doi:10.11301/jsfe.17.139
8. **Md Salim, N. S.**, Gariépy, Y., & Raghavan, V. (2016). Design of Continuous Flow Osmotic Dehydration and its Performance on Mass Transfer Exchange During Osmotic Dehydration of Broccoli Stalk Slices. *Food and Bioprocess Technology*, 9(9), 1455-1470. doi:10.1007/s11947-016-1732-z 4.
9. **Salim, N. S. M.**, Gariépy, Y., & Raghavan, V. (2016). Effects of operating factors on osmotic dehydration of broccoli stalk slices. *Cogent Food & Agriculture*, 2(1), 1134025.
10. Fariba Jafari, Kaida Khalid, Yusoff Jumiah Hassan, Abbas Zulkifly & **Nora Salina Md. Salim** (2015) Variation of Microwave Dielectric Properties in the Glucose Biosensor System, *International Journal of Food Properties*, 18:7, 1428-1433, DOI: 10.1080/10942912.2011.619293

Conference Publication

1. **Salim, N. S. M.**, Khalid, K., & Yusof, N. A. (2010). Microwave-Based Biosensor for Glucose Detection. *AIP Conference Proceedings*, 1250(1), 401–404. doi:http://dx.doi.org/10.1063/1.3469692

Other Outputs

[Thesis, manuscript, books, reports, etc.]

1. Dried broccoli (*Brassica Oleracea* L. Var. *Italica*) stalk through application of osmotic dehydration and microwave-assisted hot air drying (Doctoral dissertation, Montreal, Canada: McGill University).
2. Microwave-based Technique for Glucose Detection (Master dissertation, Universiti Putra Malaysia).
3. Thermal Diffusivity of YBCO Superconductor at Low Temperature (Bachelor dissertation, Universiti Putra Malaysia).

SUPERVISION

Master Degree

Thesis Title : Mass transfer and physicochemical properties of alginate-based edible coating and osmotic dehydration as pretreatment of dried *Zingiber officinale* slices

Student Name : Muhammad Hafiz bin Hissham

Role : Supervisor

Status : On-going

Thesis Title : Carbonisations of Cotton-Like Fibers from *Ceiba pentandra* Tree for Oil Absorbents

Student Name : Normaisarah binti Yunos

Role : Co-Supervisor

Status : On-going

COURSE TAUGHT

- Physic I (FZK1801)
- Physic II (FZK1802)
- Materials Science (FIZ401)
- Mathematical Physics (FIZ4101)
- Thermal and Modern Physics (FIZ3101)

LINKS

- SCOPUS <https://www.scopus.com/authid/detail.uri?authorId=57216572158>
- WoS <http://www.researcherid.com/rid/Q-1461-2018>
- Researchgate https://www.researchgate.net/profile/Nora_Salina_Md_Salim
- ORCID <https://orcid.org/0000-0001-9018-4074>
- Google Scholar <https://scholar.google.com/citations?user=KvAogNMAAAAJ&hl=en>
- Publons <https://publons.com/researcher/1548165/nora-salina-md-salim>

OTHERS

- Editorial Board Member, NASS Journal of Agricultural Sciences, 2019-2021
- Associate Editor, Novel Techniques in Nutrition & Food Science, 2017-present
- Associate Editor, Advances in Materials Seminar, 2019
- Associate Editor, ASM Science Journal Special Issue, 2018
- Member, International Association of Engineers (IAENG), 2020-present
- Member, Advanced Nano-Material Research Group (AnoMa), 2017-present
- e-Member, The Society of Chemical Industry (SOCl), 2015-present