



Exponent®
Engineering & Scientific Consulting

Alaa Alaizoki, Ph.D.

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Professional Profile

Dr. Alaizoki's multidisciplinary background is in food safety, engineering, and polymer chemistry with a focus on food packaging, food microbiology, food inspection, and food regulations with significant practical experience in food safety inspection and quality assurance in the food sector. Additionally, he has research expertise in food microbiology and polymers / surface chemistry with applications to food packaging, as well as demonstrated experience in advanced imaging and characterization of polymer surfaces.

Dr. Alaizoki works with clients on food regulatory requirements of their products in European and international markets. He also conducts hazard analysis and risk assessment for food ingredients and products along the supply chain and proposes mitigating measures and best practices to address any identified hazards. He carries out post-incident inspection for food businesses to ensure adequate implementation of preventative measures and corrective actions in addition to helping clients in the acquisition process of new food businesses through conducting food safety due diligence assessment of the acquired business.

Dr. Alaizoki has a proven track record in food packaging innovation, developed sustainable plastic food packaging for extending food shelf life with patents and published papers in peer-reviewed journals. The specific field interests of Dr. Alaizoki involve bridging the disciplines of food microbiology, food science, chemistry, and engineering to offer evaluation of food regulatory compliance and food safety management systems in the food chain and wider packaging sector.

Prior to joining Exponent Dr. Alaizoki worked in the food industry, maintaining high standards of food safety & quality as well as good manufacturing practices and shelf-life testing in a seafood manufacturer and worked in the Syrian local authority as a food and health inspector. He recently led a research project in collaboration with global packaging company (Klöckner Pentaplast, kp) to develop innovative technologies for manufacturing sustainable plastic food packaging. Dr. Alaizoki with his industrial partner successfully developed fully recyclable plastic food packaging (<https://www.youtube.com/watch?v=sBp3zvJAhUk>), currently placed in mainstream food retailers, which has already achieved several global packaging awards, for example "WORLDSTAR for Packaging Award_2022" and "pac global award for Best in Class_2022" and led to national media attention (<https://www.bbc.co.uk/news/uk-wales-59331845>).

Academic Credentials & Professional Honors

Ph.D., Materials, Modelling and Manufacturing, Swansea University, United Kingdom, 2022

M.Sc., Food Safety, Hygiene and Management, University of Birmingham, UK, 2015

B.S., Food Engineering, Al-Baath University, 2008

Licenses and Certifications

Associate Fellowship of Higher Education Academy (AFHEA)

QA Level 3 Award in HACCP for Food Manufacturing (RQF)

Six Sigma Green Belt Certification (CSSGB)

Prior Experience

Research Engineer, Materials & Manufacturing Academy (M2A), Swansea University, UK, 2017 – 2022

Quality Assurance Technologist, Blue Earth Foods, UK, 2016 – 2017

Research Assistant, The University of Birmingham, UK, 2016

Food & Health Inspector, Hama Municipality, Syria, 2009 – 2014

Professional Affiliations

Royal Society of Chemistry

Institute of Food Science & Technology

Languages

Arabic

Publications

Alaizoki, A., Phillips, C., Hardwick, Parker, D., & Deganello, D. (2022). Enhanced liquid retention capacity within plastic food packaging through modified capillary recesses. *Journal of Food Engineering*, 323, 111010. <https://doi.org/10.1016/j.jfoodeng.2022.111010>

Alaizoki, A., Phillips, C., Parker, D., Hardwick, C., McGettrick, J., & Deganello, D. (2021). Improvement in liquid absorption of open-cell polymeric foam by plasma treatment for food packaging applications. *Journal of Applied Polymer Science*, 52015. <https://doi.org/10.1002/app.52015>

Alaizoki, A., Phillips, C., Parker, D., Hardwick, C., Griffiths, C., & Deganello, D. (2021). Effect of plasma treatment on improving liquid retention capacity of capillary recesses for food packaging applications. *Food Packaging and Shelf Life*, 30, 100759. <https://doi.org/10.1016/j.fpsl.2021.100759>

El Kadri, H., Alaizoki, A., Celen, T., Smith, M., & Onyeaka, H. (2020). The effect of low-temperature long-time (LTLT) cooking on survival of potentially pathogenic *Clostridium perfringens* in beef. *International Journal of Food Microbiology*, 320, 108540. <https://doi.org/10.1016/j.ijfoodmicro.2020.108540>

Smith, M. & A. Alaizoki (2016) Application of tiny tag data recorder to monitor the continuum of cold chain for long-life sandwiches and use of score safe hygiene software to evaluate their integrity; Internet of Things and Food: ITaaU/FSA programme. <http://www.itutility.ac.uk/files/2016/07/Birmingham-final-report-updated.pdf>

Presentations

Alaizoki A. Plasma Treatment Application for Improving Liquid Retention in Plastic Food Packaging. IAFP's European Symposium on Food Safety, Aberdeen, UK, 2023

Alaizoki A. Surface Modification of Open-Cell Polymeric Foam for Improved Liquid Uptake in Food Packaging. IOP PGS Printing for the Future Conference, London, UK, 2022

Alaizoki A. Plasma Surface Treatment for Enhancing Liquid Retention in Plastic Meat Packaging. Formulating Functional Films and Coatings IV, 2021

Alaizoki A. Capillary Valving Phenomenon and Surface Treatment for Improved Liquid Retention in Food Packaging. 3rd Coatings and Interfaces Conference, 2021

Alaizoki A. Rheology of meat exudate for future meat packaging applications. 29th World Conference on Food and Beverages, 2020