

CURRICULUM VITAE

Murad A. Al-Holy

Ph.D. in Food Science/Food Microbiology and Safety

Date of birth: 24/5/1975

Full professor

Dean of the Faculty of Applied Medical Sciences-Hashemite University

Former Head of the Dep. Clinical Nutrition and Dietetics-Hashemite University

Former Vice Dean for Quality and Development-College of Applied Medical Sciences

Former Head of the Clinical Nutrition Department-University of Hail-KSA

Former Assistant Dean - College of Allied Health Sciences

Faculty of Applied Health Sciences, Hashemite University

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Education

Washington State University, USA	Food Science and Human Nutrition	Ph.D.	2003
University of Jordan, Amman-Jordan	Nutrition and Food Technology	M.Sc.	1999
University of Jordan, Amman-Jordan	Nutrition and Food Technology	B.Sc.	1997

Appointments

Date	Position	Institution
Sep/2020-Present	Dean of the Faculty of Applied Medical Sciences	Hashemite University
Sep/2014-Sep/2017	Chairman of Dep. Clinical Nutrition and Dietetics	Hashemite University
January/2013-Sep/2013	Vice Dean of the College of Applied Medical Sciences-Hail	University of Hail-KSA
January/ 2011-Dec/2012	Dep. Head of Clinical Nut	University of Hail-KSA
2009 – 2010	Assistant Dean	Hashemite University, Jordan
2016-Present	Full professor	Hashemite University, Jordan
2009 – 2015	Associate Professor	Hashemite University, Jordan
Jan-2008-Sep-2008	Visiting Assistant Professor	Washington State University, Pullman, WA

2004 – 2009	Assistant Professor	Hashemite University, Jordan
2001 – 2003	Teaching Assistant	Washington State University, Pullman, WA
2000 – 2001	Lab. Supervisor	Ghadeer Water Bottling Company-Jordan
1997 – 1999	Teaching Assistant	University of Jordan, Amman-Jordan

Instructional Activities

Instructional activities at the Hashemite University: Department of Clinical Nutrition and Dietetics, Faculty of Allied Health Sciences - Hashemite University (2004 - present)

1405021495	Food Chemistry (3 credit hours)
1405021221	Nutrition and Health (3 credit hours)
1405021341	Food Microbiology (3 credit hours)
1405021311	Food Hygiene (3 credit hour)
1405021232	Fundamentals of Nutrition (3 credit hour)
1405021452	Life Cycle Nutrition
1405021358	Assessment of Nutritional status

Department of Food Science and Human Nutrition, Washington State University (2001-2003)

Research Interests

- Food Science/Food Microbiology
- Determine the thermal inactivation kinetics of pathogenic foodborne microorganism in different food systems
- Develop pasteurization protocols for high value seafood products using conventional thermal processes
- Establish pasteurization protocols for high value seafood products using novel heating technologies (radio frequency and microwave dielectric heating)
- Examine the efficiency of electrolyzed oxidizing (EO) water to inactive food-borne pathogens in fresh produce, meat, fish and poultry.
- Using combinations of antimicrobial treatment with mild heat treatment to process heat-sensitive food products
- Develop methods to quantify and identify pathogenic and spoilage microorganisms in food systems using Short Wavelength and Fourier Transform Infrared Spectroscopy
- Study the growth, survival, recovery and inactivation of *Enterobacter sakazakii* (*Cronobacter* spp) in infant formula and baby foods
- Developing new media for recovery of intact and injured foodborne pathogens
- Providing expert consulting services for food safety and extension of shelf life of different food products, especially chilled meat products

Advising

Graduate Student Advising

Student	Status/Graduation Date	My Role
Renad Haddad	Current M.S. student. Food Safety	Advisor
Heba Al-Masri	Current M.S. student. Food Safety	Advisor

Rahaf Hassan	Current M.S. student. Food Safety	Co-Advisor
Aseel Samara	Current M.S. student. Food Science	Advisor
Khalid Kaddoura	M.S. 2008, Food Science	Committee member
Luis Castro	M.S. 2008, Food Science (WSU)	Co-Advisor
Ashraf Abu-Al-Hassan	M.S. 2008, Food Science	Committee member

Advising Undergraduate Students, Fellows, Visiting scholars:

- Undergraduate Student: *** (Food Science).

Research Funding

- **Al-Holy, M.** (PI). The Hashemite University-Jordan. *"Developing a rapid method for detection and identification of foodborne pathogens using Fourier Transform Infrared Technology"*. "Title". 2004-2007. \$5000.0.
 - **Al-Holy, M.** (PI). The Fulbright Organization-Jordan *Detection of Alicyclobacillus in apple juice by Fourier Transform Infrared Spectroscopy*- 2007-2008. \$ 30000.0
 - **Al-Holy, M.** (PI). National program (FFF)-Jordan. *Shelf-life extension of chilled food products*"-2008-2009. \$5000.0.
 - **Al-Holy, M.** (PI). National program (FFF)-Jordan. *Isolation of bacteria from hummus submerged fermentation and using it as a starter culture in some bakery products*"-2009-2010. \$5000.0.
 - **Al-Holy, M.** (Co-PI), Ministry of Higher Education and Research-Jordan. *"Survey of common foodborne pathogens in fast food restaurants in Jordan"*. 2010-2013. \$200000.0.
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- Use of electrolyzed oxidizing water to inhibit *Salmonella* Typhimurium, *Listeria monocytogenes* and *Escherichia coli* O 157:H7 in meat products (\$ 25000).
- **Al-Holy, M.** (PI). Developing advocacy tools for salt, sugar, trans fat and saturated fat and their replacement in traditional food products common in Jordan. (\$ 13000)
- **Al-Holy, M.** (Co-PI), Use of citric acid and garlic extract to inhibit *Salmonella enterica* and *Listeria monocytogenes* in hummus (\$ 10000).
- **Al-Holy, M.** (Co-PI), The use of essential oils to inhibit bacterial foodborne pathogens in traditional foods in Jordan (\$ 8500).
- **Al-Holy, M.** (Co-PI), the use of essential oils to inhibit *Shigella* spp. in hummus (\$ 7500).
- **Al-Holy, M.** (Co-PI), the use of essential oils to inhibit *Shigella* spp and *Staphylococcus aureus* in Mediterranean salads (\$ 11000).
- **Al-Holy, M.** (PI), the use of microwave and radiofrequency heating to inactivate foodborne pathogens in high value aquatic food products (\$ 35000).
- **Al-Holy, M.** (PI), developing novel medium for detection of *Cronobacter sakazakii* in infant formula and baby foods (\$ 25000).
- **Al-Holy, M.** (PI), Inactivation of *Cronobacter sakazakii* in infant formula milk using natural ingredients (\$ 27000).
- **Al-Holy, M** (Co-PI), the potential application of probiotics and prebiotics for the prevention and treatment of COVID-19 (\$ 7000).
- **Al-Holy, M** (Co-PI), the use of organic acids in washing solution to inhibit *Salmonella* spp. on chicken breast (\$ 7500).

Research Collaboration

- Actively cooperating with a research group at Washington State University in the field of food microbiology: In the last five years, I have conducted and supervised many mutual

research projects between the Hashemite University and The Food Science Department at Washington State University.

- I have a strong cooperation with faculty members at the Jordan University of Science and Technology and the University of Jordan in the field of food safety and food microbiology.

Service Activities

Departmental

- Head of the research committee
- Member of the committee of social affairs
- Member of the committee for course planning
- Head of curriculum development
- Quality control committee

College/Campus

- Head of the food safety committee on campus
- Head of the students' affairs committee.
- Head of the student training and internship program
- Member of the of instrumentation committee at the faculty of Allied Health Sciences-Hashemite University
- Member of the University council-Hashemite University-2006/2007.
- Attended The “**Quality Control and Program Accreditation Workshops**” held at Hail University
- Head of the hiring and promotion committee.

- Member of the Research committee
- Member of graduate studies committee
- Member of the curriculum development committee
- Head of the accreditation committee
- Founding member of the college of dentistry at the Hashemite University.

National and International

- Member of the national committee of accreditation for Food Science and Human Nutrition Programs
- Member of the Association for Food Protection-USA.

Community Service

- Member of the national committee of accreditation for Food Science and Human Nutrition Programs
- Safe handling of food and hygienic practices of workers in the food preparation areas at the Hashemite University, 2005.
- A short course in food safety to employees in food control authorities in Jordan.
- Participated in the open “Health Day” held in the Liaison office of the Hashemite University in Zarqa.

Review Manuscripts for Journals

- *Member of the editorial board of **Clinical Microbiology***
- *Member of the editorial board of **Microscopic Creatures***
- *Member of the editorial board of the **Journal of Food: Microbiology, Safety & Hygiene***
- *Journal of Food Processing and Preservation*

- *Journal of Food Science*
- *Journal of Food Engineering*
- *Journal of Food Protection*
- *Journal of Agricultural and Food Chemistry*
- *Yonsei Medical Journal*”.
- *Journal of Food Safety*”.
- *International Journal of Food Science and Technology*
- *Sensing and Instrumentation for Food Quality and Safety*
- *Jordan Journal of Agricultural Sciences (JJAS)*
- *International Journal of Food Microbiology*
- *Letters in Applied Microbiology*
- *Jordan Journal of Pharmaceutical Sciences (JJPS)*
- *Emirates Journal of Food and Agriculture (EJFA)*
- *World Journal of Microbiology and Biotechnology*
- *Food Control*
- *Journal of Food Measurement and Characterization-Springer*
- *Jordan Journal of Biological Sciences*
- *Journal of Dairy Science*
- *Nutrition and Food Sciences*
- *Journal of Dairy Science*
- *Biosensors Journal*
- *International Journal of Food Properties*
- *Journal of Epidemiology and Global Health*
- *Journal of Food Composition and Analysis*
- *Journal of the Science of Food and Agriculture*

- *Nature-Scientific Reports*
- *BMC Microbiology*
- *Analytical Methods*
- *International Journal of Food Properties*
- *International Journal of Microbiology*
- *Journal of Chemistry*
- *Colloids and Surfaces B: Biointerfaces: Elsevier*
- *Food Science and Technology International*
- *Agriculture-MDPI*
- *Foods-MDPI*

Awards and Honors

2008-2009 Abdul-Hameed Shuman Distinguished Young Researcher Award in the Field
of Agricultural Studies

2007-2008 Fulbright Postdoctoral scholarship

Outstanding student award in the State of Washington, The Puget

2003 Sound-IFT, WA

2002 Travel Award – the Institute of Food Technologists

2002 CAHE Scholarship – Washington State University

Professional Society Memberships

- Member of the Association for Food Protection-USA
- Editorial Board member of the “**Clinical Microbiology**” Journal.

Original Articles in Peer-reviewed Journals (Current Scopus H-Index=28)

(Google Scholar H-Index= 33.; i-10 index= 63), Total citations

(* = corresponding author

- 1- **Al-Holy, M. A.**, Olaimat, A. N., Abughoush, M. H., Daseh, L. 2023. Growth behavior of different food borne pathogens in falafel paste. *International Journal of Food Microbiology* (Accepted).
- 2- Olaimat, A. N., **Al-Holy, M. A.**, Abughoush, M. H., Daseh, L., Al-Nabulsi, A. A., Osaili, T. M., Al-Rousan, W., Maghaydah, S., Ayyash, M., & Holley, R. A. (2023). Survival of *Salmonella enterica* and *Listeria monocytogenes* in date palm paste and syrup at different storage temperatures. *Journal of Food Science*, 00, 1– 10. <https://doi.org/10.1111/1750-3841.16620>
- 3- Al Hourani, H., Alkhatib, B., Al-Shami, I. **Al-Holy, M.** 2023. Energy and macronutrient intakes in Jordan: a population study. *Scientific Reports* 13, 12736 (2023). <https://doi.org/10.1038/s41598-023-39900-1>
- 4- Abughoush, M., Olaimat, A.N., **Al-Holy, M.A.**, Nour, M., Abu - Ghoush, L. 2023. Evaluation of food quality and safety parameters and food safety knowledge and practices of food handlers at fast foods restaurants at universities in Jordan during COVID-19. *Heliyon*, 9(8), e18936.
- 5- Olaimat, A.N., **Al-Holy, M.A.**, Abughoush, M.H., Ayyash, M., Holley, R.A. 2023. Survival of *Salmonella enterica* and *Listeria monocytogenes* in date palm paste and syrup at different storage temperatures. *Journal of Food Science* 88 (7), 2950–2959.
- 6- Olaimat, N. A., **Al-Holy, M.A.**, Osaili, T., Holley, R.A. et al. 2023. Emerging foodborne viruses: A comprehensive review. *Comprehensive Reviews in Food Science and Human Nutrition* (In press).
- 7- AL-Othman, H., Maghaydah, S., Abughoush, M., Olaimat, A., Al-Holy, M., Ajo, R., Khalaileh, N., and Imranul H. 2023. Development and characterization of nutritious gluten-free doughnuts with lupin and Inulin flours, *Foods* 2022, 11, 3237. <https://doi.org/10.3390/foods11203237>
- 8- Al-khamaiseh., A., Amr, A., **Al-Holy, Murad.** Al-Qadiri, H., Shahein, M., and Albawarshi, Y. 2023. Physicochemical and microbiological properties of Arabic flatbread produced from

wild natural sour starters. *Food Bioscience*, S2212-4292(23)00301-2.

<https://doi.org/10.1016/j.fbio.2023.102650>

- 9- Amin N Olaimat.,T. Osaili., H. Hasan., Veena Raigangar., Maysaa Alwadi., Noorieh Emad Neinavaei , **Murad A Al-Holy.**, Ma'mon M Hatmal , Mahmoud Abu-Ghoush., Anas A Al-Nabulsi , Khalid Mubarak Bindayna., Leila Ismail., Tamadur M Olaimat., Mutamed Ayyash., and Richard A Holley . 2022. Public knowledge and attitude towards COVID-19 vaccines, implementation of preventive measures following vaccination, and perceived stress during the COVID-19 pandemic: A cross-sectional study in Jordan. *Electronic Journal of General Medicine* 2022, 19(1), emXXX . e-ISSN: 2516-3507.
- 10- Olaimat, N. A., Al-Nabulsi, A., Nour, M.O., **Al-Holy, M.A.**, Osaili, T., Holley, R.A. 2022. The Effect of the Knowledge, Attitude, and Behavior of Workers Regarding COVID-19 Precautionary Measures on Food Safety at Foodservice Establishments in Jordan. *Sustainability (Switzerland)*, 14(13), 8193.
- 11- Hatmal , M.M., Al-Hatamleh, M.A., Olaimat, A.N., Alshaer, A., Hasan, H., Albakri, K.A., Enas Alkhafaji , Nada N. Issa , **Murad A. Al-Holy** , Salim M. Abderrahman , Atiyeh M. Abdallah and Rohimah Mohamud. 2022. Immunomodulatory properties of human breast milk: MicroRNA contents and potential epigenetic effects. *Biomedicines*, 10, 1219.
- 12- Maghaydah, S., Alkahlout, A., Abughoush, M., Choudhury, I., Hayajneh, W. **Al-Holy, M.** 2022. Novel gluten-free cinnamon rolls by substituting wheat flour with resistant starch, lupine and flaxseed flour. *Foods*, 11(7), 1022.
- 13- Al-Awwad, N.J., Ayoub, J., Barham, R., **Al-Holy, M.**, Olaimat, A., Al-Jawaldeh, A. 2022. Review of the nutrition situation in Jordan: Trends and way forward. *Nutrients*. 14(1): 135
- 14- Olaimat, A.N., Nabulsi, A., **Al-Holy, M.A.**, Osaili, T, Holley, R.A. 2022. Inactivation of stressed *Salmonella enterica*, *Escherichia coli* O157:H7 and *Listeria monocytogenes* in hummus using low dose gamma irradiation. *Journal of Food Science*, 87(2): 845–855.
- 15- Olaimat, A.N., **Al-Holy, M.A.**, Abu Ghoush, M.H., Al-Degs, Y.S., Holley, R.A. 2022. Use of citric acid and garlic extract to inhibit *Salmonella enterica* and *Listeria monocytogenes* in hummus. *International Journal of Food Microbiology*. 362, 109474.

- 16- Al-Qadiri, H., Amr, A., **Al-Holy, M.A.**, Shahein, M. 2021. Effect of gamma irradiation against microbial spoilage of hummus preserved under refrigerated storage. *Food Science and Technology International*. 27(7): 598–607.
- 17- Osaili, T., Al-Nabulsi, A., Al Sheikh., Y., Alaboudi, A., Olaimat, A., **Al-Holy, M.**, Walid Al-Rousan, W. and Holley, R. 2021. Inactivation of *Salmonella* spp., *Escherichia coli* O157:H7 and *Listeria monocytogenes* in Tahini by Microwave Heating. *Foods*:10(12): 2972.
- 18- Olaimat, A.N., Abu Ghoush, M., **Al-Holy, M.**, Ayyash, M., Holley, R.A. 2021, Survival and growth of *Listeria monocytogenes* and *Staphylococcus aureus* in ready-to-eat Mediterranean vegetable salads: Impact of storage temperature and food matrix. *International Journal of Food Microbiology*, 346, 109149.
- 19- Osaili, T.M., Hasan, F., Dhanasekaran, D.K., **Al-Holy, M.**, Holley, R. 2021. Effect of yogurt-based marinade combined with essential oils on the behavior of *Listeria monocytogenes*, *Escherichia coli* O157:H7 and *Salmonella* spp. in camel meat chunks during storage. *International Journal of Food Microbiology*. 343: 109106.
- 20- Osaili, T., Al-Nabulsi, A., Nazzal, D., **Al-Holy, M.A.**, Obaid, R., Holley, R. 2021. Effect of water activity and storage of tahini on the viability of stressed *Salmonella* serovars. *Food Science and Technology (Brazil)*, 2021, 41(1), pp. 144–150.
- 21- Olaimat, A.N., Osaili, T.M., **Al-Holy, M.A.**, Ayyash, M., Holley, R. Microbial safety of oily, low water activity food products: A review. *Food Microbiology*, 2020, 92, 103571.
- 22- Olaimat, A.N., Aolymat, I., **Al-Holy, M.**, Liu, S.-Q., Shah, N.P. The potential application of probiotics and prebiotics for the prevention and treatment of COVID-19. *npj Science of Food*, 2020, 4(1), 17.
- 23- Al-Nabulsi, A., Osaili, T., Olaimat, A., **Al-Holy, M.A.**, Awaisheh, S., Holley, R. Inhibitory effect of thyme and cinnamon essential oils against *E. coli* O157:H7 in tahini. *Food Science and Technology*, 2020, 40(4), pp. 885–893.
- 24- Amin N. Olaimat, Tareq M. Osaili, **Murad AL-Holy**, Anas A. Al-Nabulsi, Reyad S. Obaid, Akram R. Alaboudi, Mutamed Ayyash, Richard Holley. 2020. Microbial Safety of Oily Low Water Activity Food Products: A Review. *Trends in Food Science and Nutrition* (Submitted).

- 25- Ala A. Qatatsheh, Rula Amr, **Murad A. Al-Holy**, Sharaf Omar, Amin N. Olaimat. 2019. Identification of Single Nucleotide Polymorphisms in Selenium-Glutathione Peroxidase (GPX1) Gene. Current Research. *Nutrition and Food Science* (In Press).
- 26- Olaimat, A. **Al-Holy, M.A***. Abu Ghoush, M.H.^a Abu Hilal, H.M.^a Osaili, T.M. Rasco. B.A. 2019. Population dynamics of *Salmonella* spp. and *Shigella* spp. in ready-to-eat Mediterranean vegetable salads. *Journal of Food Safety*. e12734.
- 27- Osaili, T. M. AlBiss, B. A, Al-Nabulsi, A. Olaimat, A. Al-Holy., Savvaidis, I., Holley, R. 2019. Effects of metal oxide nanoparticles with plant extract on viability of foodborne pathogens. *Journal of Food Safety*. 39 (5): 12681.
- 28- Anas A. Al-Nabulsi, Osaili, T., Olaimat, A.N., **Murad Al-Holy**, Richard A. Holley. 2019. Inhibitory effect of thyme Cinnamon essential oils against *Escherichia coli* in tahini. *Food Science and Technology* (In press).
- 29- Anas A. Al-Nabulsi, Osaili, T., Olaimat, A.N., **Murad Al-Holy**, Richard A. Holley. 2020. Inactivation of *Salmonella* spp. in tahini using Plant essential oil extracts. *Food Microbiology* (In press).
- 30- Olaimat, A.N., **Murad Al-Holy***, Mahmoud Abu Ghoush, Anas A. Al-Nabulsi, Richard A. Holley. 2019. Use of Cinnamon and Thyme oils to inhibit *Salmonella* spp. in Hummus. *Journal of Food Processing and Preservation* (In press).
- 31- Olaimat, A. and Murad **Al-Holy, M.** Growth behavior of *Salmonella* spp. and *Shigella* spp in ready-to-eat vegetable salads. *Journal of Food Safety* (In press).
- 32- Al-Nabulsi, A., Osaili, T., Naser, R.A., Olaimat A., **Al-Holy, M.**, Kadora, K. and Holley, R.A. Effect of starter culture, brine concentration, and storage temperature on viability of *Staphylococcus aureus* and production of Staphylococcal enterotoxin during Processing and Storage of White Brined Cheese. *Food Control* (submitted for publication).
- 33- Osaili, T., Al-Nabulsi, A., Nazzal, D., Shaker, R., El Bashir., A., Olaimat, A. and Al-Holy, M. A. Survival of stressed *Salmonella* spp. in tahini with different aw levels during storage. *Journal of Applied Microbiology*. (Submitted for publication).
- 34- Olaimat*, A.N., **Murad Al-Holy***, Mahmoud Abu Ghoush, Anas A. Al-Nabulsi, Ala A. Qatatsheh, Hafiz M. Shahbaz, Tareq M. Osaili, Richard A. Holley. 2018. The use of malic

- and acetic acids in washing solution to inhibit *Salmonella* spp. on chicken breast. *Journal of Food Science*. 83 (8): 2197-2203.
- 35- Olaimat, A.N., **Murad Al-Holy**, Hafiz M. Shahbaz, Anas A. Al-Nabulsi, Mahmoud Abu Ghoush, Tareq Osaili, Richard A. 2018. Holley. Emergence of Antibiotic Resistance in *L. monocytogenes* Isolated from Food Products: An Overview. *Comprehensive Reviews in Food Science and Technology*. 17(5):1277-1292
- 36- Olaimat, A.N., **Al-Holy**, M., Abu-Ghoush, M., Al-Nabulsi, A. 2018. Use of Allyl isothiocyanate to Control *Salmonella* and *Listeria monocytogenes* in Hummus. *International Journal of Food Microbiology*. 278:73-80
- 37- Olaimat, A.N., Anas A. Al-Nabulsi, Tareq M. Osaili, **Murad Al-Holy**, Mutamed M. Ayyash, Ghadeer F. Mehyar, Ziad W. Jaradat, Mahmoud Abu Ghoush. 2017. Survival and inhibition of *Staphylococcus aureus* in commercial and hydrated tahini using acetic and citric acids. *Food Control*. 77: 179-186.
- 38- Olaimat, A. N., **Al-Holy**, M. A., Abu-Ghoush, M. H., Osaili, T. M., Al-Nabulsi, A. 2017. Inhibition of *Shigella sonnei* and *Shigella flexneri* in hummus using citric acid and garlic extract. *Journal of Food Science*. 82 (8): 1908-1915.
- 39- Qatatsheh, A., Dabbour, I., Al-rethaia, A. **Al-Holy, M.**, and Omar, S. 2016. Iron status in healthy subjects living in Jordan. *Progress in Nutrition*. 18 (3): 242-248.
- 40- Ayyash, M., **Al-Holy, M. A.**, Al-Rumaithi, H., Abusheliabi, A. and Al-Khaldi, S. 2017. Growth behaviour of *Salmonella* spp. and *Staphylococcus aureus* in raw and pasteurized camel milk. *Czech Journal of Food Sciences* 35 (4): 311-320 .
- 41- Al-Qadiri, H. **Al-Holy, M.** 2016. Effect of acidic electrolyzed water-induced bacterial inhibition and injury in live clam (*Venerupis philippinarum*) and mussel (*Mytilus edulis*). *International Journal of Food Microbiology*. 231: 48-53.
- 42- Tareq M. Osaili, Anas A. Al-Nabulsi, Salisu A. Abubakar, Akram R. Alaboudi, **Murad A. Al-Holy**. 2016. Feasibility of using gamma irradiation for inactivating of starvation, heat and cold stressed *Salmonella* in tahini. *Journal of Food Protection*. 79 (6): 963–969.

- 43- Abu-Goush, M., Fasfous, I., Dugus, Y., **Al-Holy, M.** and Alshathri, A. 2017. A novel approach in identification of pork meat in beef-pork mixes using Fourier transform infrared (FTIR) spectroscopy combined with multivariate calibration. *Journal of Food Measurement and Characterisation*.
- 44- Abu-Goush, M., Samhouri, M., **Al-Holy, M.**, Albashir, A., and Abdelhafez, E. 2017. Formulation and evaluation of coating content and their distribution on chips products by automated inspection using fuzzy-based image processing. *Journal of Food Process Engineering*. doi:10.1111/jfpe.12302.
- 45- **Al-Holy M***, and Rasco, B.A.2015. The bactericidal activity of acidic electrolyzed oxidizing water against *Escherichia coli* O157:H7, *Salmonella Typhimurium*, and *Listeria monocytogenes* on raw fish, chicken and beef surfaces. *Food Control*. 54: 317-321.
- 46- Qatatsheh, A., Tayyem, R., **Al-Holy, M.**, Al-Shami, I. 2015. Vitamin D deficiency among Jordanian university students and employees. *Nutrition and Food Science*. 45(1): 68-82.
- 47- Abughoush, M., Sajid, A., Koushik, A., **Al-Holy, M.**, and Al-Dabbas, M. 2015. Sensory and nutritional properties of a novel cooked extruded lentils analog. *Journal of Food Processing and Preservation*. 39: 1229-1234.
- 48- **Al-Holy, M***, Lin, M., Abu-Goush, M. and Alhaj, O. 2015. Discrimination between *Bacillus* and *Alicyclobacillus* spp. in apple Juice using Fourier transform infrared spectroscopy. *Journal of Food Science*. 80(2): M399-M404.
- 49- **Al-Holy, M.A***. Sabbah, K., and Osaili, 2014. T. Inactivation of *Cronobacter sakazakii* in infant formula using chitosan and lactic acid. *Journal of Food Processing and Preservation*. 39: 1745-4549.
- 50- Faris, M-E. and **Al-Holy, M***. 2014. Implications of Ramadan intermittent fasting on maternal and infant health: A review. *Mediterranean Journal of Nutrition and Metabolism*. 7:107-118.
- 51- Al-Nabulsi, A., Osaili, T., Shaker, R., Olmat, A., Attlee, A., **Al-Holy, M.**, Zein Elabedeen, N., Jaradat, Z. and Holley, R. 2013. Survival of *E. coli* O157:H7 and *Listeria innocua* in tahini (sesame paste). *Journal of Food, Agriculture & Environment*, 11 (3&4): 303-306.

- 52- Ammar, B., and **Al-Holy, M***. 2013. Body image and lifestyle attitudes of married and single female gymnasium users in Hail region, Saudi Arabia. *Nutrition and Food Science*. 43(4): 365-373.
- 53- **Al-Holy, M.A***, Eideh, A.M., Eupru, S., Abu-Jamous, D., and Shankyty, I. 2013. Awareness of folic acid intake among women in the childbearing age in Hail-SA. *Food and Nutrition Sciences* 4, 49-55.
- 54- **Al-Holy, M.A*.**, Osaili, T.M, El-Sayed, S.A, and Shankyty, I. 2013. Microbial quality of green leafy vegetables in Saudi Arabia. *Italian Journal of Food Science*. 25:446-452.
- 55- Osaili, T.M., Nabusi, A., **Al-Holy, M.A.**, and Shaker, R. 2012. Occurrence and antimicrobial susceptibility of *Listeria monocytogenes* isolated from brined white cheese in Jordan. *Journal of Food Science*. 77(9): M528-M532.
- 56- **Holy, M.A***, Al-Nabulsi, A., Osaili, T.M., Aayyash, M. and Shaker, R., **2012**. Inactivation of *Listeria innocua* in brined white cheese by a combination of nisin and heat. *Food Control* 23, 48-53.
- 57- **Al-Holy, M.A*.**, Shin, J-H., Osaili, M. and Rasco, B.A. **2011**. Evaluation of a new enrichment broth for detection of *Cronobacter* from infant formula. *Journal of Food Protection*. 74(4): 387-393.
- 58- Osaili, T.M., Al-Nabulsi, A., **Al-Holy, M.A**, Shaker, R., Al-Nabulsi, A., Olmat, A., and Aayyash, M., Al-Haddaq, M, and Forsythe, S. **2010**. Efficacy of thin agar layer method for the recovery of stressed *Cronobacter* spp. (*Enterobacter sakazakii*). *Journal of Food Protection*. 73 (10), 1913-1918.
- 59- **Al-Holy, M.A.***, Castro, L., Al-Qadiri, H.M. **2010**. Inactivation of *Cronobacter* spp. (*Enterobacter sakazakii*) in infant formula using lactic acid, copper sulfate and monolaurin. *Letters in Applied Microbiology* 50, 246-251.
- 60- Al-Nabulsi, A., Osaili, T.M. **Al-Holy, M.A.**, Shaker, R. **2009**. Influence of desiccation on the sensitivity of *Cronobacter* species to lactoferrin or nisin in broth and powdered infant formula. *International Journal of Food Microbiology* 136(2), 221-226.
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- 69- Al-Qadiri, H.M., Lin, M., **Al-Holy, M.A.** Cavinato, A.G and Rasco, B.A. **2008.** Detection of sublethal thermal injury in *Salmonella enterica* Serotype Typhimurium and *Listeria monocytogenes* using Fourier Transform Infrared (FT-IR spectroscopy 4000-6000 cm⁻¹). *Journal of Food Science*. 73 (2): M54-M61.
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- 75- Lin, M., Mosouvai, M., **Al-Holy, M.A.**, Cavinato, A.G., Rasco, B.A. **2006**. Rapid near infrared spectroscopic method for the detection of spoilage in Rainbow trout (*Oncorhynchus mykiss*) fillet. *Journal of Food Science*: 71(1), S018-023.
- 76- **Al-Holy, M.A*.**, Lin, M., Al-Qadiri, H, Cavinato, A.G, and Rasco, B.A. **2006**. Classification of foodborne pathogens by Fourier transforms infrared spectroscopy and pattern recognition techniques. *Journal of Rapid Methods and Automation in Microbiology*: 14, 189-200.
- 77- **Al-Holy, M.**; Lin, M.; Cavinato, A.G.; Rasco, B.A. **2006**. The use of Fourier transform infrared spectroscopy to differentiate *Escherichia coli* O157:H7 from other bacteria inoculated into apple juice. *Food Microbiology*: 23 (2): 162-168.
- 78- M Lin, M Mousavi, **M Al-Holy**, AG Cavinato, BA Rasco. 2006. Sensory and Nutritive Qualities of Food-Rapid Near Infrared Spectroscopic Method for the Detection of Spoilage in Rainbow Trout (*Oncorhynchus mykiss*) Fillet. *Journal of Food Science* 71 (1), S18.
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- 80- Tayyem, R., and Al-Holy, M. 2005. Nutrition during childhood. Proceedings of the first conference on childhood and the family. Hahemite University. Zarqa-Jordan.

- 81- Lin, M., **Al-Holy M.**, Chang, S-S., Haung, Y., Cavinato, A.G., Kang, D-H, and Rasco, B.A. **2005**. Rapid discrimination of *Alicyclobacillus* strains in Apple Juice by Fourier Transform Infrared Spectroscopy. *International Journal of Food Microbiology*. 105: 369-376.
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- 83- **Al-Holy, M.A***, Y. Wang., J. Tang, and B. Rasco. **2005**. Dielectric properties of salmon (*Oncorhynchus keta*) and sturgeon (*Acipenser transmontanus*) caviar at radio frequency (RF) and microwave (MW) pasteurization frequencies. *Journal of Food Engineering*: 70, 564-570.
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- 85- M. Lin., **Al-Holy, M.A.**, Al-Qadiri, H., Kang, D.H., Cavinato, A.G., Haung, Y., and Rasco, B.A. **2004**. Discrimination of intact and injured *Listeria monocytogenes* by Fourier transform infrared spectroscopy and principal component analysis. *Journal of Agricultural and Food Chemistry*: 52, 5769-5772.
- 86- Lin, M., **Al-Holy, M.A.**, Mousavi-Hesary, M., Al-Qadiri, H., Cavinato, A.G, and Rasco. B.A. **2004**. Rapid and quantitative detection of the microbial spoilage in chicken meat by diffuse reflectance spectroscopy (600-11000 nm). *Letters in Applied Microbiology*: 39, 148-155.
- 87- **Al-Holy, M.A***, Z. Quinde., D. Guan., J. Tang, and B. Rasco. **2004**. Thermal inactivation of *Listeria innocua* in salmon (*Oncorhynchus keta*) caviar using conventional glass and novel aluminum thermal-death-time tubes. *Journal of Food Protection*: 67(2), 383-386.
- 88- **Al-Holy, M.A***, J. Ruiter., M. Lin., D-Y Kang, and B.A. Rasco. **2004**. Inactivation of *Listeria innocua* in nisin treated salmon (*Oncorhynchus keta*) and sturgeon (*Acipenser transmontanus*) caviar using radio frequency (RF) pasteurization. *Journal of Food Protection*: 67(9), 1848-1854.
- 89- **Al-Holy, M.A*** and Al-Delaimy, K.S. **2003**. Citric acid production from whey with sugars and additives by *Aspergillus niger*. *African Journal of Biotechnology*: 2(10), 356-359.
- 90- M. Lin., A.G. Cavinato., D.D. Mayes., **Al-Holy, M.A.**, Y. Huang., S. Smiley, and B.A. Rasco. **2003**. Bruise detection in Pacific pink salmon (*Oncorhynchus gorbuscha*) by short-
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wavelength near-infrared spectroscopy. *Journal of Agricultural and Food Chemistry*: 51, 6404-6408.

- 91- K LUECHAPATTANAPORN, **M Al-Holy**, Y WANG, D Guan, DH Kang. 2003. Thermal inactivation kinetics of *Clostridium sporogenes* using a novel aluminum TDT tube. IFT Annual Meeting-Chicago.

Book Chapters

- 92- Lin, M., Rasco, B.A., Cavinato, A., **Al-Holy, M.** 2009. Infrared (IR) Spectroscopy - near infrared spectroscopy and mid infrared spectroscopy. In: *Infrared Spectroscopy for Food Quality Analysis and Control*. (Editor: Sun, D.-W.). Elsevier Publishing. Burlington, MA, USA.
- 93- **Al-Holy, M.**, Lin, M., Rasco, B.A. 2007. Inactivation of *Bacillus cereus* by high hydrostatic pressure. In: *High Pressure Processing of Foods* (Editors: Doona, C.J. & Feeherry, F.E.). Blackwell Publishing.
- 94- **Al-Holy, M.A.**, and Rasco, B.A. 2007. Proteins: Basic concepts, In *Food Chemistry: Principles and Application*, (Editor: Hui, Y.H.) *Second edition*, Science Technology System. West Sacramento, California, USA.
- 95- Olaimat, M., and **Al-Holy M.** Al-Nabulsi, A., and Osaili, A. 2023. Chitosan: a potential antimicrobial agent to enhance microbial safety and shelf life of salad dips and ethnic foods. In: *Novel Applications in Food Systems* (Savvaadis, I (ed.). Academic Press, Elsevier. UK.

Conference Presentations & Posters (partial list, 2007 - present):

Al-Holy, MA. Survival of *Staphylococcus aureus* and *Listeria monocytogenes* in ready-to-eat Mediterranean vegetable salads²⁰¹⁹ 6th International Conference on Food Security and Nutrition (ICFSN 2019) -April 8-10, 2019 in Barcelona, Spain

Al-Holy, M.A. Prevalence of antibiotic resistance among foodborne pathogens: Influence of food processing chain. Arab Food Industries Forum on Food Safety and Trade Facilitation. 4-5/March/2019. Amman-Jordan

Al-Holy, M. A. Solutions for Better Life. The University of Sharja. Sharja- UAE Folic Acid Awareness among women in the child bearing age. 2016

Al-Holy, M. A. ERASMUS-Jordan-European Union: Call for proposals-**2015**.

Al-Holy, M.A. EU-JordanNet FOOD Brokerage. 2015. Higher Council of Science and Technology. Amman-Jordan.

Al-Holy, M. 2015. Discrimination between *Bacillus* and *Alicyclobacillus* spp. in apple Juice using Fourier transform infrared spectroscopy. *17th International Conference on Food Manufacturing and Safety*. 2015. Istanbul-Turkey.

Al-Holy, M.A*. Using infra red spectroscopy for the detection of pork adulteration with halal meat products. The Second International Conference on Halal Foods, Scientific and Jurisprudent Evidence- Sharja-UAE, 2014.

Al-Holy, M.A*. The potential of using infra red spectroscopy for the detection of pork adulteration with halal meat products. The First International Conference on Halal Foods, Riyadh, KSA, 2012.

Al-Holy, M.A*., Shin, J-H., Osaili, M. and Rasco, B.A. A novel enrichment broth to improve detection and isolation of *Cronobacter* from infant formula. The Fourth Saudi Science Conference, Al-Medina Al-Munawara-KSA, 2010.

Al-Holy, M.A., Castro, L., and Al-Qadiri, H.A. Inactivation of *Cronobacter* spp (*Enterobacter sakazakii*) in infant formula using lactic acid, copper sulfate and monolaurin. The First International conference on *Cronobacter* spp (*Enterobacter sakazakii*), Dublin, Ireland, 2009.

Al-Holy, M*, Lin, M., and Rasco, B. A comparative study between overlay method and selective media for recovery of stressed cells of *Enterobacter sakazakii* from infant formula. The 5th International Congress on Food Technology. Thsaloniki, Greece, 2007.

Al-Holy, M*., Lin, M., AbuGoush, M., Al-Qadiri, H.M., Rasco, B.A. Thermal resistance, survival and inactivation of *Enterobacter sakazakii* (*Cronobacter* spp) in powdered and reconstituted infant formula. 5TH International Congress on Food Technology. Thsaloniki, Greece, 2007.

Lin, M., **Al-Holy M.A.**, Chang, S.-S., Kang, D.-H, and Rasco, B.A. Phylogenetic and spectroscopic analysis of *Alicyclobacillus* isolates by 16S rDNA sequencing and mid infrared spectroscopy. 2006 EFFOST Annual Meeting/Total Food 2006. Hague, Netherland.

Al-Holy, M.A., Al-Qadiri, H.M., Lin, M., Rasco. B.A. Inhibition of *Listeria innocua* in hummus by a combination of nisin and citric acid. 2006 EFFOST Annual Meeting/Total Food 2006. Hague, Netherland.

Lin, M., **Al-Holy M.**, Chang, S-S.,Haung, Y., Cavinato, A.G., Kang, D-H, and Rasco, B.A. **2005.** Rapid discrimination of *Alicyclobacillus* strains in Apple Juice by Fourier Transform Infrared Spectroscopy. 2005 Institute of Food Technologists Annual Meeting, July 16-20, New Orleans.

Al-Holy, M.A., Lin, M., Al-Qadiri, H, Cavinato, A.G, and Rasco. B.A. Classification of foodborne pathogens by Fourier transforms infrared spectroscopy and pattern recognition techniques. 2005 Institute of Food Technologists Annual Meeting, July 16-20, New Orleans.

M. Lin., A.G. Cavinato., D.D. Mayes., **Al-Holy, M.A.**, Y. Huang., S. Smiley, and B.A. Rasco. Bruise detection in Pacific pink salmon (*Oncorhynchus gorbuscha*) by short-wavelength near-infrared spectroscopy.2004 Institute of Food Technologists Annual Meeting, July 12-16, Las Vegas, NV.

Al-Holy, M.A.,Z. Quinde., D. Guan., J. Tang, and B. Rasco. Thermal inactivation of *Listeria innocua* in salmon (*Oncorhynchus keta*) caviar using conventional glass and novel aluminum thermal-death-time tubes2002- Pacific Fisheries Technologists Annual Meeting, Reno-Nevada.

Al-Holy, M.A., Y. Wang., J. Tang, and B. Rasco. Dielectric properties of salmon (*Oncorhynchus keta*) and sturgeon (*Acipenser transmontanus*) caviar at radio frequency (RF) and microwave (MW) pasteurization frequencies. 2002- Institute of Food Technologists Annual Meeting, Anaheim-CA.

Participated in the proceedings of the “**Fourth National Conference on Food Quality**”-Hail, KSA, 3-7/February/2013.

Community Service:

- Safe handling of food and hygienic practices of workers in the food preparation areas at the Hashemite University, 2005.
- A short course in food safety to employees in food control authorities in Jordan.
- Participated in the open “Health Day” held in the Liaison office of the Hashemite University in Zarqa.

Teaching activities

Instructional activities :

- Nutrition and Living (In the USA)
- Nutritional Status Assessment (University of Hail-KSA)
- Food Chemistry (Hashemite University-Jordan)
- Nutrition and Health (Hashemite University-Jordan)
- Food Microbiology (Hashemite University-Jordan)
- Food Hygiene (Hashemite University-Jordan)
- Fundamentals of Nutrition (Hashemite University-Jordan)
- Nutrition During Life Cycle (Hashemite University-Jordan)

Student Evaluations of Teaching

Ratings are based on a 100 points scale: My evaluation in the courses I taught in the past six years averaged (90.6/100).

Workshops

- Workshop in Food Safety and Hygiene
- Workshop in Hazard Analysis Critical Control Point System (HACCP).
- Workshop in recent advances in food science and technology
- Workshop in rapid methods in microbial detection and identification
- Scientific Writing skills

Attended Workshops

- 1- Academic Education and evaluation- Hashemite University-2004
- 2- Electronic learning and Blackboard-Hashemite University-2007
- 3- Academic Higher Education Quality Control-University of Hail-SA-2012
- 4-Use of Viteck for microbial analysis-University of Hail-hail-KSA-2014.

National and International Committees

- **Chair and Panel Member of the Saudi National Center for Academic Accreditation and evaluation (NCAAA).**
- Member in the technical committee for preparing the National Nutrition Strategy-WHO, 2021.
- **PRIMA Foundation Project evaluation panel member-Mediterranean and Europe**
- Ministry of higher education project evaluation committee member-Jordan
- Abdulhameed Shuman Foundation proposal evaluation committee-Jordan

