
Ahmed E. Yousef, Professor of Food Microbiology

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EDUCATION

Ph. D., University of Wisconsin-Madison (Food Science), 1984

APPOINTMENTS

Post-doctoral Researcher, Department of Food Science, University of Wisconsin-Madison ----- 1985-1990

Post-doctoral Researcher, Department of Food Microbiology and Toxicology
(Food Research Institute), University of Wisconsin-Madison ----- 1990-1991

Assistant Professor, Department of Food Science & Technology, Ohio State University ----- 1991-1996

Associate Professor, Department of Food Science & Technology, Ohio State University ----- 1996-2002

Associate Professor (Graduate Faculty), Department of Microbiology, Ohio State University -- 1996-2002

Professor, Department of Food Science & Technology, Ohio State University ----- 2002-Present

Professor (Graduate Faculty), Department of Microbiology, Ohio State University ----- 2002-Present

RECENT AWARDS

- 2015 Research and Development Award, Institute of Food Technologists, Chicago, IL
- 2017 Senior Faculty Research Award, CFAES-OARDC, Ohio State University, Columbus, Ohio
- 2019 Outstanding Service Award, Institute of Food Technologists-Nonthermal Processing Division, Chicago, IL
- 2019 Gerhard Haas Award, Institute of Food Technologists, Chicago, IL
- 2020 Fellow, International Academy of Food Science and Technology (IAFoST).
- 2021 Distinguished Professor, College of Food, Agricultural, and Environmental Sciences, The Ohio State University, Columbus, Ohio

RESEARCH INTEREST

- Discovery of natural, effective, and safe antimicrobial peptides for revitalizing food preservation
- Developing ozone applications for enhancing the safety of minimally processed food and treating hard-to-decontaminate agricultural commodities
- Safety considerations of foods processed by emerging non-thermal technologies

TEACHING

- Teach the main food microbiology courses, campus-wide, Ohio State University, 1996-Present
 - Food Microbiology Lecture (3 credits). Annual enrollment: 70-100 students
 - Food Microbiology Laboratory (3 credits). Annual enrollment: 32-44 students

MENTORING

Since joining OSU in 1991, 20 students completed their Master's and 21 completed their Ph.D. degrees under my supervision. Most of these graduates currently occupy prominent positions in the industry, academia, and government. Additionally, tens of post-doctoral researchers and visiting scholars have been mentored since joining OSU.

PUBLICATIONS

- Four books, one was translated into Spanish and published in Spain
- Thirty book chapters
- A total of 183 research papers and review articles

Selected Recent Publications

- Guo Y, Huang E, Yuan C, Zhang L, **Yousef AE**. 2012. Isolation of a strain of *Paenibacillus* sp. and structural elucidation of its broad-spectrum lipopeptide antibiotic. *Appl Environ Microbiol* 78:3156-3165
- Huang E, Guo Y, **Yousef AE**. 2012. Draft genome sequence of *Paenibacillus* sp. OSY-SE, a bacterium produces a novel broad-spectrum lipopeptide antibiotic, Paenibacterin. *J Bacteriol* 194:6306-6306
- Perry JJ, **Yousef AE**. 2013. Factors affecting thermal resistance of *Salmonella enterica* serovar Enteritidis ODA 99-30581-13 in shell egg contents and use of heat plus ozone combinations for egg pasteurization. *J Food Prot* 76:213-219
- Yan Y, Waite-Cusic J, Kuppusamy P, **Yousef AE**. 2013. Intracellular free iron and its potential role in ultrahigh-pressure-induced inactivation of *Escherichia coli*. *Appl Environ Microbiol* 79:722-724
- Huang E, **Yousef AE**. 2014. Paenibacterin, a novel broad-spectrum lipopeptide antibiotic, neutralises endotoxins and promotes survival in a murine model of *Pseudomonas aeruginosa*-induced sepsis. *Int J Antimicrob Ag*. 44:74-77
- Huang E, Guo Y, **Yousef AE**. 2014. Biosynthesis of the new broad-spectrum lipopeptide antibiotic paenibacterin in *Paenibacillus thiaminolyticus* OSY-SE. *Res Microbiol* 165:243-251
- Huang E, **Yousef AE**. 2015. Biosynthesis of paenibacillin, a lantibiotic with N-terminal acetylation, by *Paenibacillus polymyxa*. *Microbiol Res* 181:15-21
- Shynkaryk M, Pyatkovskyy T, Mohamed HM, **Yousef AE**, Sastry SK. 2015. Physics of fresh produce safety: Role of diffusion and tissue reaction in sanitization of leafy green vegetables with liquid and gaseous ozone-based sanitizers. *J Food Prot* 78:2108-2116
- Hao L, Shavezipur M, **Yousef A**, Maleky F. 2016. Prediction of growth of *Pseudomonas fluorescens* in milk during storage under fluctuating temperature. *J Dairy Sci* 99:1822-1830
- Snyder AB, Perry JJ, **Yousef AE**. 2016. Developing and optimizing bacteriophage treatment to control enterohemorrhagic *Escherichia coli* on fresh produce. *Int J Food Microbiol* 236:90-97
- Elkhtab E, El-Alfy M, Shenana M, Mohamed A, **Yousef AE**. 2017. New potentially antihypertensive peptides liberated in milk during fermentation with selected lactic acid bacteria and kombucha cultures. *J Dairy Sci* 100: 9508-9520
- Huang E, Yang X, Zhang L, Moon SH, **Yousef AE**. 2017. New *Paenibacillus* strain produces a family of linear and cyclic antimicrobial lipopeptides: Cyclization is not essential for their antimicrobial activity. *FEMS Microbiol Lett*. 364: fnx049

- Yang X, Huang E, **Yousef AE**. 2017. Brevibacillin, a cationic lipopeptide that binds to lipoteichoic acid and subsequently disrupts cytoplasmic membrane of *Staphylococcus aureus*. *Microbiol. Res.* 195:18-23
- Gerst MM, **Yousef AE**. 2018. Modified microassay for the isolation of antimicrobial-producing spore-forming and non-spore-forming bacteria. *J Appl Microbiol* 124:1401-1410
- Yang X, **Yousef AE**. 2018. Antimicrobial peptides produced by *Brevibacillus* spp.: structure, classification and bioactivity: a mini review. *World J Microbiol Biotechnol* 2018:34-57
- Noden M, Moreira R, Huang E, **Yousef A**, Palmer M, Taylor SD. 2019. Total synthesis of paenibacterin and its analogues. *J Org Chem* 84:5339-5347
- Perry JJ, Peña-Melendez M, **Yousef AE**. 2019. Ozone-based treatments for inactivation of *Salmonella enterica* in tree nuts: Inoculation protocol and surrogate suitability considerations. *Int J Food Microbiol* 297:21-26.
- **Yousef AE**, Abdelhamid AG. 2019. Behavior of microorganisms in food: Growth, survival and death, p. 3-21. In M Doyle, F Diez-Gonzalez, C Hill (eds.) *Food microbiology: Fundamentals and frontiers*, 5th ed. ASM Press, Washington, DC, USA
- Abdelhamid AG, **Yousef AE**. 2020. Collateral adaptive responses induced by desiccation stress in *Salmonella enterica*. *LWT Food Sci Technol* 133: 110089
- Hussein WE, Huang E, Ozturk I, Somogyi A, Yang X, Liu B, **Yousef AE**. 2020. Genome-guided mass spectrometry expedited the discovery of paraplantaricin TC318, a lantibiotic produced by *Lactobacillus paraplantarum* strain isolated from cheese. *Front. Microbiol.* 11:1381.
- Abdelhamid AG, **Yousef AE**. 2021. Natural antimicrobials suitable for combating desiccation-resistant *Salmonella enterica* in milk powder. *Microorganisms* 9:421
- Yi Y, Abdelhamid AG, Xu Y, **Yousef AE**. 2021. Characterization of broad-host lytic *Salmonella* phages isolated from livestock farms and application against *Salmonella Enteritidis* in liquid whole egg. *LWT - Food Sci Technol* 144:111269.

RECENT PATENTS

- **Yousef AE**, Guo Y, Huang E, Yuan C, Zhang L. 2015. Antimicrobial agents, bacterial strain, biosynthesis, and methods of use. US Patent No. **9017692 B2**
- **Yousef AE**, Yousef TA, Kasler D. 2015. Coated shell eggs and methods of making same. US Patent No. **9113640 B2**
- **Yousef AE**, Kasler D, Shavezipur M. 2019. Thermal simulator. US Patent No. **10466188 B2**
- **Yousef AE**, Kasler D. 2019. Automated bioreactor with foam collector. WO2019165231. <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019165231>