

Hana A. Alkhalidy

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Research interest

- Nutritional status and its impact on health and chronic diseases risk factors.
- Understanding the relation between nutrients and phytochemicals and the occurrence of chronic diseases.
- Drug discovery; searching for naturally occurring compounds with potential for the treatment and prevention of chronic diseases such as diabetes mellitus and obesity and investigating the underlying mechanism of their action.

Education

- **PhD in Human Nutrition, Foods and Exercise/ Drug discovery for the treatment and prevention of obesity and metabolic diseases**
Virginia Tech, 2016, U.S.A.
- **Master in Nutrition and Food Technology/Nutrition, Thesis Track**
Jordan University of Science and Technology, 2009, Jordan
- **Bachelor in Nutrition and Food Technology**
Jordan University of Science and Technology, 2005, Jordan

Job Experience

- **Department Head** (Sep, 2020-present)

Department of Nutrition and Food Technology, Jordan University of Science and Technology, Irbid, Jordan.

- **Dean's Assistant** (Sep, 2019-Sep 2020)

Faculty of Agriculture, Jordan University of Science and Technology, Irbid, Jordan.

- **Associate Professor of Clinical Nutrition** (March 8, 2022- present)

Department of Nutrition and Food Technology, Jordan University of Science and Technology, Irbid, Jordan.

- **Assistant Professor of Clinical Nutrition** (Sep, 2016-March 7, 2022)

Department of Nutrition and Food Technology, Jordan University of Science and Technology, Irbid, Jordan.

- **Visiting Scholar** (June-August, 2018)

Human Nutrition, Foods and Exercise department, Virginia Tech, Virginia, USA.

- **Teaching Assistant** (2014-2016)

Human Nutrition, Foods and Exercise department (HNFE 1004 Foods and Nutrition, HNFE 2014 Nutrition Across the Life Span), Virginia Tech, Virginia, USA.

- **Research Assistant** (2012-2013)

Human Nutrition, Foods and Exercise department, Virginia Tech, Virginia, USA.

- **Research Assistant** (April, 2009 – April, 2010)

Food Research Lab, Jordan University of Science and Technology, Irbid, Jordan.

- **Teaching Assistant** (2005-2007)

Nutrition and Food Technology Department (Biochemistry, Food Quality Control, Analytical Food Chemistry, and Diet Therapy labs), Jordan University of Science and Technology, Irbid, Jordan.

Assistantship, grants and awards

- Graduate Teaching assistantships (2005-2007), Faculty of Graduate Studies, Jordan University of Science and Technology, Irbid, Jordan.
- PhD scholarship (2011-2015), Jordan University of Science and Technology, Irbid, Jordan.
- Graduate Research and Teaching assistantships, 2012-2013, 2014-2016, Human Nutrition, Foods and Exercise department, Virginia Tech, Virginia, USA.
- Distinguished Academic Achievements: Phi Sigma National Biological Sciences Honor Society and Gamma Sigma Delta Honor Society of agriculture/Virginia Tech.
- Human Nutrition, Food and Exercise department Travel Fund Award (2015), Human Nutrition, Foods and Exercise department, Virginia Tech, Virginia, USA.
- Grants supported by The Deanship of Scientific Research at Jordan University of Science and Technology/Faculty Member Research Grant (FMRG)

Year/month	Project title
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2020/2	Investigating the prevalence of cardiovascular diseases and their risk factors among college students in Jordan.
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2020/6	Exploring the polyphenolic content, and antioxidant and antidiabetic properties of <i>Eruca sativa</i> L. cultivated in Jordan.
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- Grants supported by The Deanship of Scientific Research at Jordan University of Science and Technology/Thesis Oriented Research Grant (TORG)

2018/5	Study the Antidiabetic Effect of Rosemary (<i>Rosmarinus Officinalis</i> L.) Oil Extract in Vivo
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2018/5	An Investigation of the Relation Between Dietary Flavonoids Intake and Cardiovascular Diseases Among Jordanian Adult
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2018/8	Study the Effect of <i>Annona squamosa</i> Linn leave Extract on Obesity-Induced Insulin Resistance
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2018/9	Study the Type of Association Between Dietary Flavonoid Intake and The Prevalence of Type 2 Diabetes Mellitus in Jordanian Adults
2018/11	Evaluation of the Nutritional Status of Preschool Autistic Children in Jordan: a Case-Control Study.
2019/7	Study the Factors Influencing Dietary Behavior and Lifestyle Pattern Among College Students in Jordan
2019/7	Study the Anti-Diabetic Effect of <i>Mentha longifolia</i> L. Extract in vivo
2021/10	Study of the <i>Origanum syriacum</i> L. (thyme) extracts effect on metabolic parameters and hepatic complications in vivo and in vitro.
2021/10	The phytochemical properties and antimicrobial activity of Medjoul date (<i>Phoenix dactylifera</i> L.) seed extracts.
2021/426	Study of the <i>Origanum syriacum</i> L. (thyme) extracts effect on metabolic parameters and hepatic complications in vivo and in vitro.
2022/446	Studying the relationship between body mass index, insulin resistance and insulin secretion in non-diabetic Jordanians
2022/TBD	Investigating asprosin levels and its relation to thyroid stimulating hormone and the degree of adiposity among Jordanians.

Training, workshops, and community service

Workshop/training/lectures

Location, date

Attended

- Learning Design workshop Jordan University of Science and Technology, Jordan (October, 2017)
- Cardiovascular Nutrition Workshop (Commission on Dietetic Registration, Academy of Nutrition and Dietetics, USA) Amman, Jordan (Dec, 2017)
- Nutrition Psychology Workshop (Commission on Dietetic Registration, Academy of Nutrition and Dietetics, USA) Amman, Jordan (March, 2018)
- Development of Curriculum & Study plans workshop Jordan University of Science and

- Food Quality Training "Quality Management Tools" Technology, Jordan (January, 2018)
- Food Quality Training "Quality Management Tools" Athens, Greece (April, 2018)
- Gastrointestinal Disorders Nutritional Management Workshop (Commission on Dietetic Registration, Academy of Nutrition and Dietetics, USA) Amman, Jordan (April, 2018)
- Nutrition focused physical assessment for dietitians, Hands-on practicum Workshop (commission on Dietetic Registration, Academy of Nutrition and Dietetics, USA) Amman, Jordan (June, 2019)
- Statistical Data Analysis Using SPSS workshop Jordan University of Science and Technology, Jordan (September, 2019)
- FoodQA Fostering Academia-industry Collaboration in Food Safety and Quality (ERASMUS) Dead Sea, Jordan (March, 2020)
- Summer Enrichment Courses “Evaluating Online Teaching” workshop. Magna Publications, Inc, Virtual (November, 2020)
- Making Blended Training Work workshop. iCRA The Netherlands (NUFFIC Project) iCRA Virtual (May- July, 2021)
- Digital Entrepreneurship TOT/Nuffic workshop (NUFFIC Project) Luminus Technical University College, Jordan, (August, 2021)
- Soft skills workshop, iCRA The Netherlands (NUFFIC Project) Jordan University of Science and Technology, Jordan (September, 2021)
- Study tour through a NUFFIC project “Improving education and employment prospects for Jordanian and Syrian youth in the agri-food sectors through a connected and inclusive entrepreneurship programme” The Netherlands (Sep 25-Oct 2 2022)

Organized and/or participated in

- Educational lecture at the Allied Health Sciences Faculty (Live Healthy) Hashemite University, Zarqa, Jordan (April, 2018)
- Educational lecture about the relation between obesity and Jordan University of Science and

obstructive sleep apnea at the Faculty of Dentistry	Technology, Jordan (October, 2018)
• Festival ‘scientific’ day for the Department of Nutrition and Food Technology	Jordan University of Science and Technology, Jordan (November, 2018)
• Faculty of Agriculture 3 rd Scientific Day	Jordan University of Science and Technology, Jordan (April, 2019)
• Festival ‘scientific’ day for the Department of Nutrition and Food Technology	Jordan University of Science and Technology, Jordan (November, 2019)
• Coordinator for FoodQA Food product development competition “ Traditional Functional Foods” (ERASMUS)	Jordan University of Science and Technology, Jordan (Dec, 2019)
• Nutrition Day activity at AlSarrih High School for Girls	Irbid, Jordan (Dec, 2019)
• Nutrition Day activity at Jarash Youth Center	Jarash, Jordan (Dec, 2019)
• The sub-national Food Systems Summit Dialogue/Food and Agriculture Organization of the United Nations, World Food Programme	Irbid, Jordan (June, 2021)
• Steering committee and coordinator Nuffic OKP-TMT+.20/00086 project ”Improving education and employment prospects for Jordanian and Syrian youth in the agri-food sectors through a connected and inclusive entrepreneurship programme”	JUST-iCRA-Luminus (2020-2022)

Membership, academic and non-academic committees

Membership	Location, date
• Head and Member of several committees in the Department and Faculty including International and National program Accreditation, Graduate Studies, Comprehensive exam, Scientific Research, Social and other committees.	Jordan University of Science and Technology, Jordan (Sep, 2016-present)
• Member of the Special Foods Committee	Jordanian Food and Drug Administration (JFDA), Jordan (2017-Sep 2022)
• Member of the American Society for Nutrition (ASN).	USA (January, 2018-present)

- Member of the Jordanian Agricultural Engineers Jordan (March, 2010) Association
- Membership for distinguished academic achievements: Phi Virginia Tech, USA Sigma National Biological Sciences Honor Society and Gamma Sigma Delta Honor Society of agriculture

Education and Teaching Courses

Master program

- Advanced laboratory techniques in food and nutrition
- Comprehensive exam
- Seminar
- Special topics in nutrition

Bachelor program

- Nutrition through life cycle
- Nutritional case evaluation
- Nutritional case evaluation lab
- Nutritional status evaluation
- Principles of nutrition
- Selected topics (A)
- Seminar
- Summer training
- Summer training-Practical

Graduate student supervisory and committee member

Student	Graduation date	Title
<u>Supervised:</u>		
Reham Mhawesh	2019/07	Study the Effect of Annona squamosa Linn leave Extract on Obesity-Induced Insulin Resistance
Amal AbuShaikhah	2019/08	Evaluation of the Nutritional Status of Preschool Autistic Children in Jordan: a Case-Control Study
Rawan Aljamal	2019/11	Evaluation of the effect of rosemary (Rosmarinus Officinalis L.) oil on obesity and insulin resistance in vivo

Student	Graduation date	Title
Tamara Alzboun	2020/07	An investigation of the relation between dietary flavonoids intake and cardiovascular diseases among Jordanian adult
Aliaa Orabi	2020/07	Study the Relation Between Dietary Flavonoids Intake and Type 2 Diabetes Mellitus Among Jordanian Adults
Khadeejah Alnaser	2021/02	Study the Factors Affecting The Dietary Behavior and Lifestyle Patterns Of College Students in Jordan
Wafaa Sarhan	2021/02	Study The Effect of Mentha longifolia L. Powder and Essential Oil on Obesity And Some Metabolic Parameters in vivo
Aseel Hasan	<i>Present</i>	Study of the Origanum syriacum L. (thyme) extracts effect on metabolic parameters and hepatic complications in vivo and in vitro
Marah AlTaher	<i>Present</i>	The phytochemical properties and antimicrobial activity of Medjoul date (Phoenix dactylifera L.) seed extracts

Co-supervised:

Buthainah Alzoubi	2021/08	Assessment of immunity-related dietary behaviors in the Middle East during the Corona pandemic
Salma AbuSaleh	<i>Present</i>	Patients' Self-efficacy and Self-care Management in Relation to Health Outcomes of Type 2 Diabetes Mellitus in Jordan

Committee member for:

Waed Alrefaie	2017/5	Dietary intake, inflammatory factors and lifestyle practices among polycystic ovary syndrome women in Jordan
Mohannad Mouzik	2017/6	Impact of sleeping quality/duration on obesity, morbidity and health biomarkers among employees of Jordan University of Science and Technology
Reem Al-Qudah	2020/4	Medium chain triglycerides oil and dietary intervention improved growth and metabolic parameters in pediatrics with glycogen storage disease type1 in Jordan: a clinical trial

Student	Graduation date	Title
Maram Aledaili	2021/3	Effect of flaxseeds, soybean, oat and wheat flour formulations on the phytochemical characteristics and sensory evaluation of eggless vegan cookies
Shereen Alkurdi	2021/6	Prevalence and risk factors of food addiction among university students in Jordan
Asma' Taybeh	2021/8	Food safety knowledge, attitudes, and practices among Jordan universities students during the COVID-19 pandemic

Publications

- Olmat A., Nabulsi A., Osaili T., Al-holy M., Abughoush M., **Alkhalidy H.**, Jaradat Z., Ayyash M., Holley R. Inactivation of stressed Salmonella enterica, Escherichia coli O157:H7 and Listeria monocytogenes in hummus using low dose gamma irradiation. Journal of Food Science. DOI: 10.1111/1750-3841.16036 *In production*
- AlFaris N.A., Alshwaiyat N. M., **Alkhalidy H.**, Alagal R. I., ALTamimi J., AlKehayez N.M.. Breakfast Skipping in a Multi-ethnic Population of Middle-Aged Men and Relationship with Sociodemographic Variables and Weight Status. Frontiers in Nutrition. *In production*
- **Alkhalidy H.**, Orabi A, Alnaser K, Al-Shami I, Alzboun T, Obeidat MD, Liu D. (2021). Obesity Measures as Predictors of Type 2 Diabetes and Cardiovascular Diseases among the Jordanian Population: A Cross-Sectional Study. International Journal of Environmental Research and Public Health 18 (22):12187. <https://doi.org/10.3390/ijerph182212187>
- **Alkhalidy H.**, Orabi A, Alzboun T, Alnaser K, Al-Shami I and Al-Bayyari N. (2021). Health-Risk Behaviors and Dietary Patterns Among Jordanian College Students: A Pilot Study. Frontiers in Nutrition. 8:632035. doi: 10.3389/fnut.2021.632035
- **Alkhalidy H.**, Abushaikh A, Alnaser K, Obeidat MD, Al-Shami I. (2021) Nutritional Status of Preschool Children and Determinant Factors of Autism: A Case-Control Study. Frontiers in Nutrition 8: 627011. doi: 10.3389/fnut.2021.627011
- Wang Y, **Alkhalidy H.**, Liu D.(2021). The Emerging Role of Polyphenols in the Management of Type 2 Diabetes. Molecules 26 (3), 703.
- Wang Y, Wang A, **Alkhalidy H.**, Luo J, Moomaw E, Neilson AP, Liu D (2020). Flavone Hispidulin Stimulates Glucagon-Like Peptide-1 Secretion and Ameliorates Hyperglycemia in Streptozotocin-Induced Diabetic Mice. Molecular nutrition & food research 64 (6), 1900978.

- Al-Bayyari N., Hailat R., Subih H., Alkhalidy H., Eaton A. (2020). Vitamin D3 reduces risk of cardiovascular and liver diseases by lowering homocysteine levels: double-blinded, randomised, placebo-controlled trial. *British Journal of Nutrition* 125 (2): 139-146. doi:10.1017/S0007114520001890
- **Alkhalidy H**, Moore W, Wang Y, Luo J, McMillan R, Zhen W, Zhou K, Liu D. (2018). The flavonoid kaempferol ameliorates streptozotocin-induced diabetes by suppressing hepatic glucose production. *Molecules* 23 (9), 2338.
- Luo J, Wang A, Zhen W, Wang Y, Si H, Jia Z, **Alkhalidy H**, Cheng Z, Gilbert E, Xu B, Liu D. (2018) Phytonutrient genistein is a survival factor for pancreatic β -cells via GPR30-mediated mechanism. *The Journal of nutritional biochemistry* 58, 59-70.
- **Alkhalidy H**, Moore W, Wang A, Luo J, McMillan RP, Wang Y, Zhen W, Hulver M, Liu D.(2018). Kaempferol ameliorates hyperglycemia through suppressing hepatic gluconeogenesis and enhancing hepatic insulin sensitivity in diet-induced obese mice. *The Journal of nutritional biochemistry* 58, 90-101
- **Alkhalidy H**, Wang Y, Liu D. (2018). Dietary flavonoids in the prevention of T2D: An overview. *Nutrients* 10 (4), 438.
- Wang, A., Luo, J., Moore, W., **Alkhalidy, H.**, Wu, L., Zhang, J., Zhen, W., Wang, Y., Clegg, D.J., Xu, B., Cheng, Z., McMillan, R.P., Hulver, M.W., Liu, D. (2016). GPR30 regulates diet-induced adiposity in female mice and adipogenesis in vitro. *Scientific Reports* 6, Article number: 34302. doi:10.1038/srep34302
- **Alkhalidy, H.**, Moore, W., Zhang, Y., McMillan,R., Wang, A., Ali, M., Suh, K., Zhen, W., Cheng, Z., Jia, Z., Hulver, M., and Liu, D. (2015). Small Molecule Kaempferol Promotes Insulin Sensitivity and Preserved Pancreatic β -Cell Mass in Middle-Aged Obese Diabetic Mice. *Journal of Diabetes Research*, 2015:1-14.
- Li X, Luo J, Anandh Babu PV, Zhang W, Gilbert E, Cline M, McMillan R, Hulver M, **Alkhalidy H**, Zhen W, Zhang H, Liu D. (2014). Dietary supplementation of chinese ginseng prevents obesity and metabolic syndrome in high-fat diet-fed mice. *Journal of medicinal food* 17 (12), 1287-1297
- Ereifej, K. I. Alu'datt, M. H. **Alkhalidy, H.** A. Alli, I. Rababah, T. (2011). Comparison and characterization of fat and protein composition for camel milk from eight Jordanian locations. *Food Chemistry*, 127(1): 282-289.

- Aludatt, M. H. Ereifej, K. Alothman, A. M. Almajwal, A. **Alkhalidy, H.** Al-Tawaha, R. Alli, I. (2010). Variations of physical and chemical properties and mineral and vitamin composition of camel milk from eight locations in Jordan. *Journal of Food Agriculture & Environment*, 8(3-4):16-20.

Abstracts in conferences and meetings

- **Alkhalidy H**, Sarhan W, Al-Gharaibeh M, Hasan A, Liu D. (2021). *Mentha Longifolia L.* Improves Antioxidant Status, Glucose Tolerance, Insulin Resistance and Hepatic Glucose Production In Diet-Induced Obesity. *Current Developments in Nutrition* 5(Supplement_2):294-294.
- **Alkhalidy H**, Alnaser K, Al-Shami I, Liu D. (2021). The Prevalence of Dietary and Lifestyle Risk Factors Among Jordanian Youth: The Cornerstone of Diabetes Prevention. *Current Developments in Nutrition* 5(Supplement_2):97-97.
- **Alkhalidy H**, Al-Nabulsi A, Mhawesh R, Aljamal R. (2019). A410 A dose-dependent effect of aqueous leaf extract of *Annona squamosa* (L.) leaves on body weight gain, food intake and insulin sensitivity in high-fat diet-induced obesity. *Surgery for Obesity and Related Diseases* 15 (10), S166-S167.
- Wang Y, Luo J, **Alkhalidy HA**, Xu B, Liu D. (2019). 1974-P: Identification of a Dual-Action Small Molecule with Potent Antidiabetic Activity. *Diabetes* 68 (Supplement 1).
- Wang Y, **Alkhalidy H**, Luo J, Liu D. (2019). Antidiabetic Effects of Hispidulin in Streptozotocin-Induced Insulin Deficient Mice. *The FASEB Journal* 33 (S1), 834.8-834.8.
- Liu D, Luo J, **Alkhalidy H**, Moore W, Wang A, Zhen W. (2017). Identification of Food-Derived Small Molecules for the Prevention and Treatment of Type 2 Diabetes. *The Korean Society of Food Science and Nutrition. International Symposium and Annual Meeting* 1075 - 75 (1 pages).
- Liu D, Wang A, Liu J, **Alkhalidy H**, Zhen W, Moore W (2017). Genistein in Combination with Sulforaphane for the Treatment of Type 2 Diabetes. *The FASEB Journal* 31, 646.51-646.51.
- Moore W, **Alkhalidy H**, Zhou K, Liu D. (2017). Flavonol kaempferol improves glucose homeostasis via suppressing hepatic glucose production and enhancing insulin sensitivity in diabetic mice. *The FASEB Journal* 31, 646.52-646.52.

- **Alkhalidy, H.**, Luo, J., Wang, A., Shin, K., Zhen, W., Liu, D. (2015). Long-Term Effects of Phytochemicals Genisteinn, Sulforaphane, and Kaempferol on Insulin Resistance in Diet-induced Obese Mice. Volume 64, Suppl. 1A.page LB73
- Wang A, Luo J, Suh KS, Moore W, **Alkhalidy H**, Zhen W, Liu D. (2014). GPR30 Deficiency Reduces Adiposity, Improves Glucose Homeostasis, and Prevents Streptozotocin-Induced Diabetes in Female Mice Fed a High-Fat Diet. DIABETES 63, A63-A64.
- Moore W, **Alkhalidy H**, Mcmillan R, Zhen W, Wang A, Liu D. (2014). Small molecule kaempferol prevents type 2 diabetes by promoting insulin sensitivity and reducing hepatic gluconeogenesis. Diabetes 63, A504-A505.
- Wang, A. H. Liu, D. M. Luo, J. Suh, K. S. Moore, W. **Alkhalidy, H.** (2014). Phytochemical genistein promotes pancreatic beta-cell survival and exerts anti-diabetic effect via GPR30-mediated mechanism. FASEB Journal. 28(1). Suppl. S.
- Li, X. X. Luo, J. Velayuthan, A. P. McMillan, R. Hulver, M. Zhen, W. **Alkhalidy, H.** Liu, D. M. (2013). Dietary supplementation of ginseng prevents obese and metabolic syndromes in high fat diet-fed mice. FASEB Journal. 27. 157GG.
- Aludatt, M., Ereifej K. and **Khalidy H.** (2009). Comparison and characteristics of vitamin, fat and protein composition for camel`s from eight different Jordanian locations. 3rd International Congress on Food and Nutrition, Antalya, Turkey. pp 148- 149.

Webinars and online meetings

Title

Date

- ASMBs - The FELLOW Project (American Society for Metabolic and Bariatric Surgery) (Feb, 2021-ongoing series)
- Intersections Between Nutrition Research and Nutrition Science Policy (American Society for Nutrition). (April 6, 2021)
- Biological and Pharmacological Activity of Plant Natural Compounds Webinar (Molecules). (April 8, 2021)

- Good economics for harder times Webinar (Frontiers). (April 28, 2021)
- Healing the world's cities Webinar (Frontiers). (May 27, 2021)
- Strategies for epidemiological surveillance of emerging SARS-CoV-2 variants (Nature Research Custom Media, Thermo Fisher scientific). (May 2, 2021)

References

- Dongmin Liu, PhD. Professor at Human Nutrition, Foods and Exercise department/Virginia Tech. Contact info: doliu@vt.edu
- Aihua Wang. PhD. Research Associate at Human Nutrition, Foods and Exercise department/Virginia Tech. Contact info: awang07@vt.edu.
- Wei Zhen. Research Specialist & Laboratory Manager, Human Nutrition, Foods and Exercise department/Virginia Tech. Contact info: weizhen@exchange.vt.edu