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Ph.D. in Genetic Engineering

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Lecturer

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Education and Work Experience

1994-1998	B.S. in Biotechnology , University of Al-Nahrain, Iraq
2007-2009	M.S. in Microbiology , University of Dhi-Qar, Iraq
2014-2019	Ph.D. in Genetic Engineering , University of South Carolina School of Medicine, USA.
1998-2001	Assistant Lecturer , Al-Nassiriyah Technical Institute\Community Health and Nursing Department, Iraq
2001-2005	Biologist, Early detection of Breast Cancer Clinic Manager , AL-Hussein Teaching Hospital Dhi-Qar, Iraq
2009-2011	Microbiologist , AL-Hussein Teaching Hospital Dhi-Qar, Iraq
2011-2020	Chief of Biologists , AL-Haboobi Teaching Hospital Dhi-Qar, Iraq
2012-2013	Assistant Lecturer , University of Dhi-Qar, College of Science, Iraq
2021- 2022	Chief of Biologists , Dhi-Qar Center of Inherited Blood Disorders Lecturer , Al-Ayen University, Dhi-Qar, Iraq, Lecturer , National University for Science and Technology
2022- 2023	Chief of Biologists , Holy Karbala Center of Inherited Blood Disorders Lecturer , Al-Ayen University, Dhi-Qar, Iraq

Courses

- Molecular Biology
- Biochemistry
- Clinical Immunology
- Nutrition and Immunology

- Biostatistics
- Neuroscience Seminars
- Journal Club

Languages

- Arabic. Native or bilingual proficiency.
- English. Professional working proficiency. Proficient in speaking (and public speaking), reading and writing.

Honors and Awards

- Travel Grant Award- USC SOM Graduate School (2017 and 2018)
- Travel Grant Award- USC Graduate Advisory Committee/ Provost Office (2017 and 2018)
- Abstract Award- American Association of Immunologists (2017)
- First Place Poster Award- Discover USC (2019)
- Second Place Poster Award- Center for Complementary and Alternative Medicine and COBRE on Dietary Supplements and Inflammation External Advisory Committee Meeting (2018)
- Certificate of Recognition- USC School of Medicine Graduating International Student, (2019)

Certifications

American Association for Laboratory Animal Science courses
 Experimental Design and Techniques for the use of Animals, Tissues and Cells in Biological/ Biomedical Research
 Confocal Microscopy
 General Biological Safety trainings
 General Biological Safety/ OSHA Lab Standard trainings
 Biohazards wastes training
 Bloodborne Pathogens training
 Radiation Safety training
 Certificate of completion in Histotechnology training
 Certificate of completion in Nextera Flex
 Certificate of completion in NextSeq
 NSC CPR Courses
 Certificate of completion in Chemical and Biological Security Training
 Certificate of completion in Laboratory Design
 Certificate of completion the University Teaching Assistant training course
 Certificate of completion the training program for children with autism spectrum disorder
 Certificate of completion the Behavior modification course for children with autism spectrum disorder
 Teaching methods course
 Digital teaching methods course

Publications

Al-Ghezi. Hemolytic activity of *Staphylococcus aureus* isolated from different clinical samples and its resistance to antibiotics. **MSc.Thesis, 2009.**

Al-Ghezi. Role of Epigenome and Microbiome in Cannabinoid and Aryl Hydrocarbon Receptor-Mediated Regulation of Inflammatory and Autoimmune Diseases. **Ph.D.Thesis, 2019.**

Al-Ghezi et al. Combination of Cannabinoids, Δ^9 - Tetrahydrocannabinol and Cannabidiol, Ameliorates Experimental Multiple Sclerosis by Suppressing Neuroinflammation Through Regulation of miRNA-Mediated Signaling Pathways. **Frontiers in Immunology Journal 2019.**

Al-Ghezi et al Combination of cannabinoids, delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD), mitigates experimental autoimmune encephalomyelitis (EAE) by altering the gut microbiome. **Brain, Behavior and Immunity Journal 2019.**

Al-Ghezi et al AhR activation by TCDD (2,3,7,8-Tetrachlorodibenzo-p-dioxin) attenuates Pertussis toxin-induced inflammatory responses by differential regulation of Tregs and Th17 cells through specific targeting by microRNA. **Frontiers in Microbiology Journal 2019.**

Posters and Talks

Posters

2016-2017 Graduate Student Day (Attendee)

University of South Carolina, Columbia, SC.USA

2017 Women Health Carolina Forum (Poster)

University of South Carolina, Columbia, SC.USA

2017 Society of Toxicology (Poster)

Baltimore, Maryland. USA

2017 South Carolina Academy of Junior Science (Poster)

Coastal Carolina University, Conway, SC. USA

2017-2018 CAM Center Meetings (Poster)

University of South Carolina, Columbia, SC.USA

2017 American Association of Immunologists (Poster)

Washington, DC. USA

2018 American Association of Immunologists (Poster)

Austin, Texas. USA

2019 Discover USC Day (Poster)

University of South Carolina, Columbia, SC. USA

2019 CAM Center Meetings (Poster)

University of South Carolina, Columbia, SC.USA

2022 The First International Conference for Health and Medical Specialties

Al-Zahraa University for Women, Holy Karbala, Iraq

2022 The 1st Annual International Conference of Mercy Organization for Childhood Health N.G.O.

Mercy Organization for Children Health, Baghdad, Iraq

2022 The First Medical Scientific Forum for Human Development

Talks

- 2016 Graduate Student Seminar Series**
University of South Carolina, Columbia, SC. USA
- 2017 Graduate Student Seminar Series**
University of South Carolina, Columbia, SC. USA
- 2017 USC Discovery Day**
Three minutes Thesis presentation, Columbia, SC. USA
- 2017 American Association of Immunologists (Speaker)**
Washington, DC. USA
- 2020 Knowledge, Skill & Ability in Pharmacy and Toxicology International Conference and Workshops (KSAPT) Virtual KSA. (Speaker)**
- 2021 Knowledge, Skill & Ability in Pharmacy and Toxicology International Conference and Workshops (KSAPT) Virtual KSA. (Speaker)**
- 2022 The 15th Scientific Day for Rare Pediatric Cases (Speaker)**
Holy Karbala Health Department- Al-Hindiya General Hospital, Iraq
- 2023 The 16th Scientific Day for Rare Pediatric Cases (Speaker)**
Holy Karbala Health Department- Al-Hindiya General Hospital, Iraq
- 2024 The 17th Scientific Day for Rare Pediatric Cases (Speaker)**
Holy Karbala Health Department- Al-Hindiya General Hospital, Iraq

Membership

2016-2019	Society of Toxicology
2017-2018	American Association of Immunologists
2017-2018	South Carolina Academy of Science
2019	Society for Leukocyte Biology
2019-Present	Arab Toxicologists Association
2022-present	Mercy Organization for Childhood Health N.G.O.

Teaching

Graduate Courses

1998-2001

1. Human physiology (practical)\ Al-Nassiriyah Technical Institute\ Medical and Nursing departments\DhiQar\Iraq
2. Biochemistry (practical) Al- Nasiriyah Technical Institute\ Medical and Nursing departments\DhiQar\Iraq
3. Medical microbiology (practical) Al-Nassiriyah Technical Institute\ Medical and Nursing department\DhiQar\Iraq
4. Nursing (practical) Al-Nassiriyah Technical Institute\ Nursing department\DhiQar\Iraq
5. Medical Ethics\ Al-Nassiriyah Technical Institute\ Medical and Nursing departments\DhiQar\Iraq

2011-2012

1. Microbial genetics\ Dhi-Qar University\College of Science \Biology department\Dhi-Qar\Iraq
2. Medical analysis\ Dhi-Qar University\College of Science \Biology department\Dhi-Qar\Iraq

2020-2021

1. Human physiology\ National University of Science and Technology\Dhi-Qar\Iraq

2. Medical genetics\ National University of Science and Technology\ Dhi-Qar\ Iraq
3. Anatomy\ Alayen University \ Dhi-Qar\ Iraq

2021-2022

1. Human physiology\ National University of Science and Technology\ Dhi-Qar\ Iraq
2. Medical genetics\ National University of Science and Technology\ Dhi-Qar\ Iraq
3. Molecular biology\ National University of Science and Technology\ Dhi-Qar\ Iraq
4. Human physiology\ Al-Ayen University \ Dhi-Qar\ Iraq
5. Anatomy\ Alayen University \ Dhi-Qar\ Iraq

Mentoring, Services and Training Skills

Undergraduate Research Mentoring (2001-2005)

I was a member of the Early Detection of Breast Cancer Committee in Al-Hussein teaching hospital. My main roles on this committee were the administration manager of the Early Detection of Breast Cancer Clinic and the epidemiologist. I also processed the patients' samples. I attended meetings and participated in training courses (organized either by the Iraqi Ministry of Health or the World Health Organization WHO) during this time as well. A large part of my work in this clinic was to train the staff and patients how to do the self-examination, and how to be aware about the importance of early detection of this type of cancer.

Undergraduate Research Mentoring (2021-2022)

During my work in the National University of Science and Technology\ Dhi-Qar\ Iraq I have been mentoring undergraduate research students who were working in different topics in biology.

Graduated Research Mentoring (2009-2013)

After I got my master's in microbiology I served as a microbiologist in Al-Hussein Teaching Hospital as supervisor of the summer training for college of science/ Biology Department students. I also served as the chief of Biologists in Al-Haboobi Teaching Hospital and served as supervisor of the summer training for college of science/ Biology Department students.

Graduated Research Mentoring (2021-present)

I am serving as a supervisor for graduate students who work on their Master and PhD degrees.

Graduated Research Mentoring (2016-2019)

I served as a reviewer in the Student Discovery Day at the University of South Carolina, a reviewer in the South Carolina Academy of Junior Science held in Coastal Carolina University, Conway, SC, and as a reviewer in SC INBRE Scientific Symposium, Columbia, SC.

Work and Research Expertise

2001-2005 I worked as a clinic manager and epidemiologist for the Early detection of Breast Cancer Clinic, Al-Hussein Teaching Hospital, Dhi-Qar. Also, I worked as a trainer for staff and patients related to the goal of the clinic. Furthermore, I was as a biologist responsible for processing the cytology samples from patients.

2005-2009 In order to study the hemolytic activity of Hemolysin, the most virulence factor of *Staphylococcus aureus*, more than 400 samples were collected from different infections I was able to isolate this protein by using gel filtration technique and investigated its activity. I also investigated the resistance ability of these bacteria to antibiotics.

2009-2013 I worked in and ran the microbiology lab. My main roles were to prepare the culture media, culture the samples and do the antibiotic susceptibility test after making the diagnosis.

2014-2019 I generated the EAE animal model of multiple sclerosis disease and tested the effect of natural cannabinoid products as a treatment on this animal model.

2016-2019 I investigated the immunological and epigenetic effects of the Dioxin (TCDD) on inflammation induced by Pertussis toxin using C57Bl/6 mice During this work, I became an expert in; histopathology, ELISA, flow cytometry, RT-qPCR, Seahorse, sequencing, metagenomic techniques, animal handling, breeding, and all types of injections.

2019-2021 I was the chief of biologists in Al-Haboobi Teaching Hospital. Currently, I was running the Bacteriology unit, supervising and training new employees on microscopy, staining procedures, cell culture protocols, and antibiotic susceptibility testing. I trained new employees to analyze the results from the patient samples and prepare this information for our researchers to help them find a treatment for complications related to patients with Otitis media disease.

2021- 2022 I am the chief of biologists in Dhi-Qar center of the Inherited blood disorders laboratory-virology unit.

2022- 2023 I am the chief of biologists in Holy Karbala center of the Inherited blood disorders laboratory

2023- 2025 I am the chief of biologists in Pediatric Teaching Hospital (NICU Laboratory), Holy Karbala, Iraq

2025- present I am a lecturer in Al-Zahrawi University, College of Health and Medical Techniques Department of Medical Laboratory Techniques. Holy Karbala, Iraq

Work and Research During COVID-19 Pandemic

During this pandemic, 2019- present, I have participated in many courses, webinars and workshops about different scientific topics that provided by the WHO, the Iraqi Ministry of Higher Education and Scientific Research, Non-profit organizations and companies all over the world. I have attended the virtual sessions of the 2nd International Conference on Pharmaceutical Sciences that organized by the faculty of Pharmacy/ University of Kufa on 17-18 June 2020. I attended the virtual sessions organized by the Society for Leukocyte Biology which started on 29 June and lasted until October 2020. I have submitted a workshop titled "Application of Pertussis Toxin in Biomedical Research" on Dhi-Qar University, College of Science platform on 16 June 2020, and I am working with a team from the University of Dhi-Qar to write a review about COVID-19. From 2020 till now, I have been working on research related to some medical issues that my compatriots are concerned about.

Recently, I have submitted two online workshops, the first one titled "Prenatal Diagnosis: Challenges of acceptance and abortion" on **Al-Basrah University, College of Science platform** on January 10th, 2024. The second one was titled " The Critical Issues in Children with Hemoglobinopathies (HCV Infection)" on February 14th, 2024.

2024- present I have a collaboration with **Future Meta Academy platform** and I have submitted many lectures in the medical field