Wafaa Abedalrahem Mahmoud Shunnaq

Gender	Female
E-Mail	washunnaq@just.edu.jo
Address	Irbid-Jordan
Nationality	Jordanian
Marital status	Married with two children
Date of birth	23.05.1983

Education

15th January 2018-till 17th December 2021	PhD in Anatomy and Histology from the Faculty of Medicine, Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen; Germany. Dissertation entitled: The rare villin-expressing cell of the murine lower airway is a neuroendocrine cell producing the chemokine C-X-C motif ligand 13 under homeostatic conditions. Final grade of Summa Cum Laude, with the highest distinction. .
1st October 2017- 29th January 2021	Participated in the International Giessen Graduate Center for Life Sciences (GGL). Justus Liebig University Giessen, Giessen, Germany. Successfully fulfilled the requirements to complete the GGL curriculum, research section- Heart, Lung and Blood Vessels, earning 426 out of 281 required credits.
February 2013 - September 2014	Master of Science in Anatomy from the Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan. Thesis title: Branching Pattern of Aortic Arch in Jordanians: A Computed Tomographic Angiography Based Study. G.P.A: 85%, Rank in batch: 1/3
2001 - 2006	Bachelor Degree in Dental Surgery from the Faculty of Dentistry, Jordan University of Science and Technology, Irbid, Jordan.
2001	General Secondary Certificate (Scientific Branch), Riyadh, Saudi Arabia. G.P.A: 99.83%.

Work experience

20th February 2022- till now	Anatomy Department, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan. Assistant Professor Course coordinator and teaching for the following courses: General anatomy & embryology for medical students. General histology for medical students.
1st May 2021-till 31.01.2022	Working group: Cardiopulmonary Neurobiology, Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen, Germany. Research Associate
15th January 2018-till1st May 2021	Working group: Cardiopulmonary Neurobiology, Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen, Germany. Doctoral researcher
October 2019 - July 2021	Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen, Germany. Anatomy lecturer: teaching anatomy for medical students in English.
1st September 2014 - 12th January 2018	Anatomy Department, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan. Full time lecturer: Course coordinator and teaching for the following courses: • General anatomy & embryology for medical students. • General histology for medical students. • General histology for dental students. • General anatomy & embryology for dental students. • Gross anatomy & histology for pharmacy students. • Gross anatomy & histology for paramedical students • Head & neck anatomy • Introduction to anatomy (for health management and policy students). • Anatomy for nursing
February 2008- August 2014	Anatomy Department, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan. Laboratory supervisor and teaching assistant
January 2007- January 2008	Private Sector, Irbid, Jordan. Dentist
June 2006- December 2006	Dental Center, Jordan University of Science and Technology, Irbid, Jordan. internship in dental clinics.

Scientific conferences and presentations

- The rare villin-expressing cell of the murine lower airway is a neuroendocrine cell producing the chemokine CXCL13, poster. 7th Anatomy Poster Party, Institute of Anatomy and Cell Biology, Giessen, Germany, December 2021.
- CXCL13 defines a neuroendocrine cell phenotype in the murine trachea and lung, talk. 115th Annual Meeting of the Anatomical Society, September 2021.
- The rare villin-expressing cell of the murine lower airway is a neuroendocrine cell producing the chemokine CXCL13, poster. A Day of Science of the Cluster of Excellence Cardiopulmonary Institute, Frankfurt, Germany, September 2021.
- CXCL13 defines a neuroendocrine cell phenotype in the murine trachea and lung, talk. 10th Symposium of the Young Physiologists, June 2021.
- Deciphering the murine ABC (Airway Brush Cell), talk. 6th Anatomy Video Party, Institute of Anatomy and Cell Biology, Giessen, Germany, December 2020.
- CXCL13 defines a neuroendocrine cell phenotype in the murine trachea and lung, talk. First webinar series in Novel Cell Types and Cellular Plasticity of the Cluster of Excellence Cardiopulmonary Institute, September 2020.
- Novel phenotypes of airway solitary neuroendocrine cells and their plasticity in Skn-1a / Pou2f3-knockout mice, short talk and poster. 9th Annual Meeting of the German Center for Lung Research, Travemünde, Germany, January 2020.
- The International Symposium on Olfaction and Taste (Aug 3-7, 2020), International virtual meeting
- The European Respiratory Society Conference 2020 (Sep 7-9, 2020), International virtual meeting.
- CXCL13 defines a neuroendocrine cell phenotype in the murine trachea and lung, talk. 13th Annual Giessen Graduate Center for Life Sciences Conference, September 2020.
- Virtual Early Carrier European Microscopy Congress 2020 (Nov 24-26, 2020)
- Remodeling of murine airway epithelium after stroke, poster. 5th Anatomy Poster Party, Institute of Anatomy and Cell Biology, Giessen, Germany, December 2019.
- Novel phenotypes of airway solitary neuroendocrine cells and their plasticity in Skn-1a / Pou2f3-knockout mice, poster. 5th Anatomy Poster Party, Institute of Anatomy and Cell Biology, Giessen, Germany, December 2019. Annual best poster award (“poster hero”).

- Novel phenotypes of airway solitary neuroendocrine cells and their plasticity in Skn-1a / Pou2f3-knockout mice, poster. Symposium Cellular Heterogeneity in the Cardio- Pulmonary System of the Excellence Cluster Cardiopulmonary Institute, Frankfurt, Germany, December 2019
- Novel phenotypes of airway solitary neuroendocrine cells and their plasticity in Skn-1a / Pou2f3-knockout mice, poster. Autumn Meeting 2019 of the Section Cell Biology of the German Society for Pneumology and Respiratory Medicine, Berlin, Germany, November 2019.
- Remodeling of murine airway epithelium after stroke, poster. 114th Annual Meeting of the Anatomical Society, Würzburg, Germany, September 2019.
- 8th Annual Meeting of the German Center for Lung Research, Mannheim, Germany, February 2019.
- Remodeling of murine airway epithelium after stroke, talk. 13th Annual Giessen Graduate Center for Life Sciences Conference, Giessen, Germany, September 2019. Best oral presentation award.
- First Retreat of the Cluster of Excellence Cardiopulmonary Institute, Max Planck Institute, Bad Nauheim, Germany; June 2019.
- Remodeling of murine airway epithelium after stroke, poster. 12th Annual Giessen Graduate Center for Life Sciences Conference, Giessen, Germany, September 2018.

Memberships

- Member of the German Anatomical Society (Anatomische Gesellschaft) since 2022.
- Member of cardiopulmonary institute Academy (CPI) since 2019.
- Member of the German Center for Lung Research Academy (DZL) since 2018.
- Member of Jordan Dental Association since 2006.

Courses and workshops

- 19th February- 20th February 2018, "Methods of Protein Analysis" workshop, Institute of Biochemistry, Justus Liebig University Giessen, Giessen, Germany.
- 30th May 2018, "Designing Digital Learning Scenarios with ILIAS" workshop, Hochschulrechenzentrum (HRZ), Justus Liebig University Giessen, Giessen, Germany.
- 9th August- 15th August 2018, "Molecular biology techniques" workshop, Kerckhoff clinic, Bad Nauheim, Germany.
- August 2018, "Biostatistics and R", 40 hours course, Justus Liebig University Giessen, Giessen, Germany.
- October 2018- June 2019, "General Dissection Course I and II", Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen, Germany.
- October 2018- June 2019, "General Histology Course I and II", Institute for Anatomy and Cell Biology- Justus Liebig University Giessen, Giessen, Germany.
- 8th June-10th June 2020, Editing, "Processing and analysis of scientific images", Ludwigshafen, Germany (online course).
- 18th June 2020, Practical Course "Bioinformatics - Data evaluation and interpretation", Max Planck Institute Bad Nauheim, Germany.
- 21th October-22 October 2020, Prepare and organize clinical studies, Health Academy Hessen, Giessen.
- October 28th - October 29th 2020, "Team management for young scientists", Justus Liebig University Giessen, Giessen, Germany.

Research experience

During my past research, I gained a profound experience in the following techniques:

- Tissue fixation, processing and sectioning for histochemical techniques.
- Tissue fixation, processing and sectioning for electron microscopy.
- Immunohistochemistry.
- Preparation of whole mounts of mouse organs for staining in microscopic evaluation
- RNA isolation, reverse transcription-polymerase chain reaction (RT-PCR), real-time PCR and gel electrophoreses.
- Advanced knowledge of microscopic techniques (light microscopy, fluorescence microscopy, confocal laser scanning microscopy, scanning and transmission electron microscopy).
- Western Blot.
- Cell culture.
- The enzyme-linked immunosorbent assay technique (ELISA).
- Measurement of ciliary beat frequency
- Cell separation for flow cytometry
- Basic principles in *in silico* analysis of single cell sequencing data

Knowledge and skills

- Very good written and spoken English.
- Basic level German B1.
- Native in Arabic language.
- Proficient in using Microsoft Office packages.
- Proficient in processing and analysis of scientific images using Image J, Adobe Photoshop and Inkscape.
- experienced in performing biostatistical analysis using R, GraphPad Prism and SPSS.
- experienced in designing digital learning scenarios with E-Learning and ILIAS.
- Team player.
- Reliable to work hard under pressure in a rapidly changing environment.

Publications

- Mahmoud W, Perniss A, Poharkar K, Soultanova A, Pfeil U, Hoek A, Bhushan S, Hain T, Gärtner U, Kummer W. CXCL13 is expressed in a subpopulation of neuroendocrine cells in the murine trachea and lung. Cell Tissue Res. 2021 Nov 11. doi: 10.1007 / s00441-021-03552-2. Epub ahead of print. PMID: 34762185.
- Mustafa AG, Allouh MZ, Ghaida JH, Al-Omari MH, Mahmoud WA. Branching patterns of the aortic arch: a computed tomography angiography-based study. Surg Radiol Anat. 2017 Mar; 39 (3): 235-242. doi: 10.1007 / s00276-016-1720-z. Epub 2016 Jun 23. PMID: 27338939.