Nafe M. H. AL-Tawarah

Assoc. Prof. in Human Neurophysiology

PERSONAL DATA:

- **Work address:** Medical Laboratory Sciences, Faculty of Allied Medical Sciences, Mutah University, Al-Karak, Jordan.
- **Citizen:** Jordanian
- **Place of birth:** Ma'an - Jordan, 5th of December, 1977
- **Mobile:** 00962-779-244-145 (cellular)
- **Marital status:** Married
- **Electronic address :** nafitawa77@gmail.com, nafitawa77@mutah.edu.jo

EDUCATION

DOCTORATE OF PHILOSOPHY (PHD), JUNE-2016

HUMAN PHYSIOLOGY (NEUROPHYSIOLOGY).
Faculty of Medicine, Istanbul University, Istanbul, Turkey.

- **Thesis:** EEG Frequency Characteristics Before and After Modulated Transcranial Direct Current Stimulation (mtDCS) in Rats. (Published).

  Al-Tawarah, N. M., Kaptan, Z., Abu-Harirah, H. A., Nofal, M., Almajali, B., Jarrar, S., ... & Karamursel, S. (2022). Effectiveness of Anodal otDCS Following with Anodal tDCS Rather than tDCS Alone for Increasing of Relative Power of Intrinsic Matched EEG Bands in Rat Brains. ***Brain Sciences,*** 13(1), 72.

MASTER (MSC), BIOLOGY - MOLECULAR BIOLOGY, JUNE- 2007

- Department of Biology, Faculty of Science, Mutah University, AL-Karak, Jordan. (**Average: Excellent).**
- **Thesis:** Characterization of Verotoxigenic Escherichia coli (VTEC) isolated from slaughtered small ruminants and slaughterhouses in Southern Jordan (Published).
- Tarawneh, K. A., **Al-Tawarah, N. M.,** Abdel-Ghani, A. H., Al-Majali, A. M., & Khleifat, K. M. (2009). Characterization of verotoxigenicEscherichia coli (VTEC)isolates from faeces of small ruminants and environmental samples in Southern Jordan. Journal of basic microbiology, 49(3), 310-317.

❖ **BACHELOR (BSC) IN DVM, JUNE-2000.**

- Jordan University of Science and Technology (JUST), school of veterinary medicine, Irbid , Jordan. **(Average: good).**

❖ **(AL-TAWJEHI) JUNE-1995**

- **Jordan, Maan /** Al-Shoubak-Secondary school, (**Average; 86.7%).**

FIELD SPECIALIZATION:

- Human medical physiology.
- Human neurophysiology.
- Physiology of human nervous system
- Neural circuits and cognitive neurophysiology.
- Physiology of membrane potential
- Brain neurotransmitters.
- Pathophysiology.
- Human Neuroanatomy.

COURSES TAUGHT:

- **2013 TO 2017**
  - ✓ **MEDICAL COLLEGE / ISTANBUL UNIVERSITY**
    - Human general physiology
    - Cognitive neurophysiology
    - Electro-Neurophysiology

- **2017 TO PRESENT**

✓ **MEDICAL LAB. SCIENCES/ MUTAH UNIVERSITY:**

- Human general physiology.
- Human medical systematic physiology.
- Physiology of human nervous system.
- Human anatomy.
- Physiology of membrane potential and cell physiology.
- Clinical endocrinology.

✓ **FACULTY OF PHARMACY, COSMETIC DEPARTMENT/ MUTAH UNIVERSITY**

- Medical human physiology

✓ **FACULTY OF PHARMACY/ MUTAH UNIVERSITY**

- Medical human physiology.
- Histology.
- Pathophysiology and Human Anatomy.

EXPERIENCES:

- ✓ **2012 to 2016**
  - Researcher in Neuro- and electro- physiological; Brain electrical stimulation as new tool for non- synaptic neuromodulation, for treatment of some neuro-pathological challenges; like brain stroke, Parkinson disease, epilepsy and seizures.
  - Stereotaxic surgery in rats for implantation of transcranial and Epidural electrodes (telemetric or wire technique), which wasinvestigated for many electrophysiological studies tDCS, tACS, otDCS and for EEG assessment in animal models).
  - Analysis of EEG findings; providing valuable information about the brain electrical stimulation effects on electrical activity of brain cortex (after-effect and forward-effects).
  - *MAKE* Lab / physiology department – Istanbul Medical Faculty (***MAKE* LAB.:** Madde ve Akıl Etkileşimleri Laboratuvarı; ;**Matter and Mind Interaction Laboratory).** investigation for all Researches related for studying of brain and nervous system functions.

- **2013 to 2016**
  - Lecturers for 1st & 2nd level - medical students, department of physiology /Istanbul Medical Faculty -Istanbul University; General physiology, Neurophysiology and the physiology of cardiovascular system. Also, for PhD, MSc and department staff (Cognitive neurophysiology; Neuro-physiological basis of the memory and learning).

- **2017 to 2019**
  - Assistant Prof. in Medical Laboratory Sciences department / Mutah University; Human physiology, Neurophysiology, Clinical endocrinology and Human anatomy.
- **Sep. 2019- Sep. 2021** Assistant dean - Faculty of Sciences/ Mutah University
- **Sep.2021-Sep-2022** Head of Medical Lab. Sciences department/ Faculty of Sciences
- **12.2022 – present** Associate Prof. in Human Neurophysiology.

ACADEMIC ACTIVITIES:

- A chairman of MLS day during scientific week of Faculty of Sciences (Sciences between applicationand technology) 25-27/7/2022. Mutah University.
- Conference participant, MLS conference day 24.5.2022. Al-Zarqa University.
- Member and coordinator in an establishment team of faculty of **Allied Medical Sciences**/ MUTAH university.
- Member in The International Neuromodulation Society
- Reviewer for many journals:
  - All neuroscience and physiology journals in Hindawi publisher such as neural plasticity, neurology research international …etc.
  - Journal of Clinical Medicine.

MASTER STUDENTS AND THEIR THESIS'S TITLES:

1- Rawand H. Aldmour. Singular and Combined Enhancing Memory-Effect of Rosmarinus officinalis and Mentha piperita L. oils in a Scopolamine-Induced Alzheimer's Disease-Like Condition in a Rat Model. 2021. (Published in Q1 journal).

- **Al-Tawarah, N. M.,** Al-Dmour, R. H., Abu Hajleh, M. N., Khleifat, K. M., Alqaraleh, M., Al-Saraireh, Y. M., ... & Al-Dujaili, E. A. (2023). Rosmarinus officinalis and Mentha piperita Oils Supplementation Enhances Memory in a Rat Model of Scopolamine-Induced Alzheimer's Disease-like Condition. *Nutrients,* 15(6), 1547.

2- Weam AL Kasasbeh. Memory enhancing and neurogenesis activity of Honey Bee Venom in symptoms of amnesia: using rats with such Alzheimer like disease as a model. 2021. (Published in Q1 journal).

- Khleifat, K. M., **Al-Tawarah, N. M.,** Al-Kafaween, M. A., Al-Ksasbeh, W., Qaralleh, H., Alqaraleh, M., ... & AB, M. H. (2023). Memory Enhancing and Neurogenesis Activity of Honey Bee Venom in the Symptoms of Amnesia: Using Rats with Amnesia-like Alzheimer's Disease as a Model. *Current Alzheimer Research.*

PUBLICATION

1. Rawand H. Al-Dmour, **Nafe M. Al-Tawarah,** Nesrin Mwafi, Banan A. Alkhataybeh, Khalid M. Khleifat, Amjad Tarawneh, Anas O. M. Satari, Sahem M. Alkharabsheh & Laila Albustanji (2023) Enhancement of hippocampal-dependent spatial memory by Ashwagandha (Withania somnifera) characterized by activation of NMDA receptors against Monosodium Glutamate-induced neurotoxicity in rats, ***International Journal of Neuroscience,*** DOI: 10.1080/00207454.2023.2255372.

2. Khleifat, K. M., **Al-Tawarah, N. M.,** Al-Kafaween, M. A., Al-Ksasbeh, W., Qaralleh, H., Alqaraleh, M., ... & AB, M. H. (2023). Memory Enhancing and Neurogenesis Activity of Honey Bee Venom in the Symptoms of Amnesia: Using Rats with Amnesia-like Alzheimer's Disease as a Model. ***Current Alzheimer Research.***
3. **Al-Tawarah, N. M.,** Al-Dmour, R. H., Abu Hajleh, M. N., Khleifat, K. M., Alqaraleh, M., Al-Saraireh, Y. M., ... & Al-Dujaili, E. A. (2023). Rosmarinus officinalis and Mentha piperita Oils Supplementation Enhances Memory in a Rat Model of Scopolamine-Induced Alzheimer's Disease-like Condition. ***Nutrients,*** 15(6), 1547.
4. Altiti, A. J., Khleifat, K. M., Alqaraleh, M., Shraim, A., Qinna, **N., Al- Tawarah,** N. M., Qaralleh, H. (2022). Protective Role of Combined Crataegus Aronia Ethanol Extract and Phytosomes against Hyperglycemia and Hyperlipidemiain Streptozotocin- Induced Diabetic Rat. ***Biointerface research in applied chemistry.*** 13(3):1-14. DOI: 10.33263/BRIAC133.207.
5. **Tawarah N. M.** (2022). Long-Term after-Effects of Wet Cupping Therapy on Some Inflammatory Mediators and Antioxidant parameters in Jordanian Healthy Adult Men. ***Bahrain Medical Bulletin.*** 44(3), 1025-1030.
6. **Tawarah N. M.** and Karamürsel S. (2016). Modulated tDCS/tDCS increasing forward power-effects in upper matched-frequency EEG-bands rather than by tDCS alone in the rat brain. ***Brain stimulation.*** (In Press).
7. **Tawarah N. M.** (2022). Synergistic Potential Therapeutic Activity of Aqueous Extract of both *Artemisiajordanica* and*Achillea fragrantissima* in Rabbit's Incision, Excision and Burn Models. ***Journal of biomedical pharmacology.*** 15(3),1393-1405.
8. **Al-Tawarah, N. M.,** Kaptan, Z., Abu-Harirah, H. A., Nofal, M., Almajali, B., Jarrar, S., ... & Karamursel, S. (2022). Effectiveness of Anodal otDCS Following with Anodal tDCS Rather than tDCS Alone for Increasing of Relative Power of Intrinsic Matched EEG Bands in Rat Brains. ***Brain Sciences,*** 13(1), 72.
9. Qaralleh, H., Khleifat, K. M., Khlaifat, A. M., Al-limoun, M., **Al-Tawarah, N. M.,** Alhroob, A. M., & Alsaudi, A. B. (2021). Chemical Composition, Antioxidant and Inhibitory Effect of Cupressus sempervirens Essential Oils and Methanolic Extract on Beta-lactamase producing Isolates. ***Research Journal of Pharmacy and Technology,*** 14(9), 4673-4679.
10. Alqaraleh, M., Kasabari V. Aljafraa A., **Al-Tawarah NM** et al., (2021). Evaluation of the Antiglycation Effect of Branched Chain Amino Acids and Phytochemical Compounds on RAW 264.7 Cell Line and their Synergistic Effect on Colorectal Cancer Cell Line Panel. ***Romanian Journal of Diabetes Nutrition and Metabolic Diseases,*** 26(4), 361-369
11. Al-khalifeh, E. M., Khleifat, K. M., **AL-Tawarah, N. A**.., AL-Limoun, M.O., Abdel-ghani, A. H., Alsharafa, K., & Qaralleh, H. (2021). Genetic Diversity and Chemical Composition of Juniperus phoenicea L Reflect on Its Antimicrobial Activity. ***International Journal of Pharmaceutical Research,*** 9(4): 268-279.

12. Alqaraleh, M., Kasabri, V., Al-Majali, I., Aljaafreh, A., Al-Othman, **AL-Tawarah, N.M.,** Khleifat, K., ... & Qaralleh, H. Branched chain amino Acids as In vitro and in vivo Anti-Oxidation Compounds. ***Research Journal of Pharmacy and Technology,*** 14(7), 3899-3904.
13. Qaralleh, H. A., Al-Limoun, M. O., Khlaifat, A., Khleifat, K. M., **Al- Tawarah, N. M.,** Alsharafa, K. Y., & Abu-Harirah, H. A. (2021). Antibacterial and antibiofilm activities of a traditional herbal formula against respiratory infection causing bacteria.arXiv preprint arXiv:2102.04301.
14. Almajali, B., Johan, M. F., Al-Wajeeh, A. S., Wan Taib, W. R., Ismail, I., Alhawamdeh, M., **Al-Tawarah N. M.**, Ibrahim W. N., Al-Rawashde F. A., & Al-Jamal, H. A. N. (2022). Gene expression profiling and protein analysis reveal suppression of the C-Myc oncogene and inhibition JAK/STAT and PI3K/AKT/mTOR signaling by thymoquinone in acute myeloid leukemia cells. Pharmaceuticals, 15(3), 307.
15. Al Fraijat B, **Al-Tawarah NM,** Khlaifat AM, Qaralleh H, Khleifat KM, M A, Al-Zereini W, Al-Limoun MO. Urinary tract infection and non-ruptured acute appendicitis association: Uro-pathogens findings. ***Trop Biomed.*** 2019Sep 1;36 (3):620-629. PMID: 33597484.
16. Khleifat, K. M., Qaralleh, H., Al-limoun, M. O., Al-khlifeh, E. M., Aladaileh, S. A., **Tawarah, N.,** & Almajali, I. S. (2021). Antibacterial and Antioxidant Activities of Local Honey from Jordan. ***Trop. J. of Nat Pro Research.*** 32, 12314-56.
17. Qaralleh, H., Khleifat, K. M., Al-Limoun, M. O., Alzedaneen, F. Y., & Al- **Tawarah, N. M.** (2019). Antibacterial and synergistic effect of biosynthesized silver nanoparticles using the fungi Tritirachium oryzaeW5H with essential oil of Centaureadamascena to enhance conventionalantibiotics activity**.** ***Advances in Natural Sciences: Nanoscience and Nanotechnology,*** 10(2), 025016.
18. **Al-Tawarah, N. M.,** Qaralleh, H., Khlaifat, A. M., Nofal, M. N., Alqaraleh, M., Khleifat, K. M., & Al Shhab, M. A. (2020). Anticancer and Antibacterial Properties of Verthemia Iphionides Essential Oil/Silver Nanoparticles. ***Biomed Pharmacol J,*** 13(3), 1175-1185.
19. Tarawneh, K. A., **Al-Tawarah, N. M.,** Abdel-Ghani, A. H., Al-Majali, A. M., & isolates from faeces of small ruminants and environmental samples in Southern Jordan**.** ***Journal of basic microbiology,*** 49(3), 310-317.

AUTHOR PROFILE (SCOPUS):

NAFE M. AL TAWARAH

- **Google scholar: https://scholar.google.com/citations?user=zXpx7tgAAAAJ&hl=en**
- **Research gate: https://www.researchgate.net/profile/Nafe-Al-Tawarah**

Affiliation: Mutah University, Faculty of Allied Medical Sciences, Medical Laboratory Sciences

- ✓ **CITATION: 230, 201 SINCE 2017**
- ✓ **h-index: 7**
- ✓ **i10-index 7**

FUTURE SCIENTIFIC INTERESTS:

1- Establishment of Neuro-electro-physiological research lab, investigation for Neuromodulation / Neurostimulation effects of transcranial electrical stimulation techniques (Transcranial Electrical Stimulation (TES) and Magnetic stimulation (TMS) upon brain cortex and sub-cortex layers.

2- Planning for opening of MAKE Lab center in corporation with Neuro-medicine and neurology specialists. Center will be linked with some international Neuro- electro-physiological centers (e. g. Turkey - Istanbul medical faculty and Brainstimlab-tDCS). Researches will be investigated in clinical neuropsychiatry and rehabilitation field and for treatment of neurodegenerative disorders (Autism, Parkinson's Disease, Depression, Seizures..etc).

SKILLS:

- **Computer**
  - Well knowledge of word, excel, internet, windows and PowerPoint.
  - Well knowledge in ArcGIS, Geographical Information Sys.
  - Well knowledge in SPSS, Statistical Analysis.
  - Well knowledge in MATLAB and Win-EEG analytical programs.
  - Well knowledge in Graph-Pad prism program, Statistical Analysis.

- **LANGUAGES:**
  - **Arabic**: Mother language.
  - **English**: Speaking, reading and writing; very good.
  - **Turkish**: Speaking, reading and writing; excellent.

- **SCIENTIFIC REFERENCES:**

1) Prof. Dr. Asem Al-Shehabi, Faculty of Medicine, Jordan University.(ashehabi@ju.edu.jo).
2) Prof. Dr. Faisal Ismail Mohammed. Head of physiology Department. Faculty of Medicine. Jordan University. (fmmed@ju.edu.jo, fimohammed@gmail.com).
3) Prof. Dr. Sacit Karamursel, Head of Physiology Dep. Faculty of Medicine,Istanbul University., **Istanbul-Turkey** (sacit@istanbul.edu.tr).
4) Prof. Dr. Ziya Ziyaln, Physiology Department, Faculty of Medicine, AydinUniversity, **Istanbul-Turkey**. (ziziylan@yahoo.com).

- **CERTIFICATES AND REFERENCES ARE AVAILABLE UPON REQUEST.**