
















## Prof. Mahmoud I. Khalil

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-  **Google Scholar:** [https://bit.ly/MKhalil\\_GoogleScholar](https://bit.ly/MKhalil_GoogleScholar)
-  **Scopus:** <https://bit.ly/MKhalil-Scopus>
-  **Clarivate analytics:** [https://bit.ly/MKhalil\\_WebofScience](https://bit.ly/MKhalil_WebofScience)
-  **SciProfiles:** <https://sciprofiles.com/profile/MahmoudIbrahimKhalil>
-  **ResearchGate:** [https://bit.ly/MKhalil\\_ResearchGate](https://bit.ly/MKhalil_ResearchGate)
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-  **Webpage:** <https://www.bau.edu.lb/staff/Science/Mahmoud-khalil/853>









-  **Work:** Department of Biological Sciences, Faculty of Science, Beirut Arab University, Lebanon.
-  **Sabbatical Leave:** Faculty of Science, Alexandria university, Alexandria, Egypt.

### ABOUT ME

Prof. Mahmoud Khalil is currently a Professor of Molecular Biology and the Head of the Department of Biological Sciences at the Faculty of Science, Beirut Arab University. He graduated from the Faculty of Science, Alexandria University with Distinction in 1997. Based on academic excellence, he was granted a PhD scholarship from the Ministry of Higher Education in Egypt. Prof. Khalil got his Ph.D. from University College London, UK (Ranked #9 in QS Rankings 2026). The work of his PhD demonstrated for the first time that S6K2, a kinase involved in protein synthesis and cell proliferation, is methylated on an arginine residue in its AT-hook motif, a modification that is implicated in translocation to the nucleus, binding to DNA, and the inhibition of the survival of lung cancer cells via downregulating this post-translational mark of S6K2. This was followed by a postdoctoral fellow at MD Anderson Cancer Center, USA. He has around 26 years of experience in research and academic teaching. His research efforts resulted in publishing around 95 manuscripts in leading highly impacted journals, including Nature chemical biology, Journal of cellular biochemistry, Life sciences, and Drug Discovery Today. His published articles attracted more than 1360 citations (h-index: 17, i10-index: 37 - Google scholar citations Aug 2025). He mentored in excess of 70 graduate students. The objective of Prof. Khalil in teaching is to foster the acquisition of concepts and learning skills to facilitate further learning and thinking. His challenge is to stimulate curiosity, generate enthusiasm for science, and learn, by linking taught content to the real world. As an extracurricular activity, Prof. Khalil is interested in raising awareness about Open Educational Resources (OER), Learning Management Systems (LMS), Copyrights, eCheating, and eAuthentication. Prof. Khalil is an effective academic tutor, advisor, and communicator, and can intellectualise complex understanding to audiences with varied expertise. Additionally, he is an Associate-Trainer certified from the International Board of Certified Trainers (IBCT)-Training of Trainers (TOT) - MENA region.

### EDUCATION AND TRAINING

-  **Postdoctoral Fellow - Department of Molecular Carcinogenesis** [06/2012 – 09/2013]  
MD Anderson Cancer Center - The University of Texas, Texas, United States
-  **Ph.D. Molecular Biology & Genetic Engineering** [01/2006 – 05/2010]  
University College London (Ranked #9 in QS Rankings 2026), London, United Kingdom
-  **M.Sc. Experimental Zoology** [08/1999 – 12/2004]  
Faculty of Science - Alexandria University, Alexandria, Egypt
-  **Postgraduate study for the requirements of M.Sc.** [08/1997 – 06/1999]  
Faculty of Science - Alexandria University, Alexandria, Egypt
-  **B.Sc. Zoology "Excellent with Honors"** [08/1993 – 05/1997]  
Faculty of Science - Alexandria University, Alexandria, Egypt
-  **High School Education (Secondary level II)** [08/1990 – 06/1993]  
EL-Nasr Boys School (EBS) – (private English language school), Alexandria, Egypt

## WORK EXPERIENCE

### 📦 **Head of Department of Biological Sciences** [07/2020 – Current]

Faculty of Science - Beirut Arab University, Beirut, Lebanon

- Professor of Molecular biology
- Member of Faculty Council
- Member of the Strategic Planning Committee, Research Committee, and Faculty Exams Committee
- Assisting the committee of Education and Students affairs.
- Developing the departmental curriculum for undergraduate and postgraduate programs.
- Developing the curriculum for the senior project for undergraduates, research technique, individual studies, and directed independent studies for postgraduates.
- Course offering for undergraduate and postgraduate programs.
- Supervisor of Biochemistry & Molecular Biology Laboratory.
- Supervisor of Cell & Tissue Culture Laboratory.
- M.Sc. and Ph.D. Theses supervision
- Contributing to ongoing research.
- Academic Advisor.
- Teaching undergraduate and postgraduate students.

### 📦 **Professor of Molecular biology & Genetic Engineering** [09/2023 – Current]

Department of Biological Sciences - Faculty of Science - Beirut Arab University, Beirut, Lebanon

- Teaching undergraduate students (Faculty of Science and Faculty of medicine)
- Teaching postgraduate students.
- Academic Advisor and Supervisor of Senior Projects.
- Main Supervisor of Laboratory classes of Biology department
- M.Sc. and Ph.D. Theses supervision.
- Supervisor of Molecular Biology and Cell & Tissue Culture Laboratories.
- Contributing to ongoing research.
- Internal Auditor in Quality Assurance & Accreditation office.
- Assisting the committee of Education and Students affairs.

### 📦 **Professor Molecular Cell Biology (Sabbatical leave)** [10/2022 – Current-On leave]

Department of Zoology - Faculty of Science - Alexandria University, Alexandria, Egypt

### 📦 **Associate Professor of Molecular biology & Genetic Engineering** [09/2018 – 08/2023]

Department of Biological Sciences - Faculty of Science - Beirut Arab University, Beirut, Lebanon

### 📦 **Associate Professor of Molecular biology & Genetic Engineering** [05/2017 – 10/2022]

Department of Zoology - Faculty of Science - Alexandria University, Alexandria, Egypt

### 📦 **Postdoctoral Fellow - Department of Molecular Carcinogenesis** [06/2012 – 09/2013]

MD Anderson Cancer Center - The University of Texas, United States

- Investigating the effect of small molecule inhibitors on epigenetic molecules in cancer.
- Screening of protein arginine methyltransferases for phosphorylation.
- Advising and assisting undergraduate and postgraduate students.
- Mentoring undergraduate students and •Conducting short-term projects

### 📦 **Lecturer/Ass. Professor of Molecular biology & Genetic Engineering** [08/2010 – 06/2017]

Department of Zoology - Faculty of Science - Alexandria University, Alexandria, Egypt

- Managing Molecular Biology unit.
- M.Sc. and Ph.D. Theses supervision and Academic Advisor.
- Contributing to ongoing research.
- Internal Auditor in Quality Assurance & Accreditation office.
- Participating in the Continuous improvement and qualification for accreditation project (CIQAP).

### 📦 **Teaching Assistant** [12/2006 – 04/2010]

University College London (Ranked #9 in QS Rankings 2024), London, United Kingdom

- Assisting professorial staff in undergraduate teaching.
- Leading undergraduates in laboratory research.
- Assessment of written work of undergraduates.
- Financial officer of Prof. Ivan Gout's laboratory, University College London, UK.

## 📧 Assistant lecturer [08/2004 – 09/2010]

Department of Zoology - Faculty of Science - Alexandria University, Alexandria, Egypt

- Contributing to ongoing research.
- Teaching practical classes for undergraduate and postgraduate students.
- Maintaining and managing laboratory facilities and resources

## 📧 Demonstrator [01/1998 – 09/2004]

Department of Zoology - Faculty of Science - Alexandria University, Alexandria, Egypt

- Tutoring undergraduate courses including Immunology, Genetics, Molecular biology, Histology, Embryology, Cell biology, Animal Physiology, and Cytology.

## RESEARCH INTEREST

### Main Interest:

- Cancer Cell Signaling.
- Phytochemicals and Carcinogenesis.
- Green Nanomaterials and Biological Applications.
- Antibiotic Resistance
- Biotechnology.

### Other Interests:

- Epigenetics and Cancer.
- Regulation of Growth and Energy Metabolism in Cancer.
- Polymorphism and Diseases.
- Environmental DNA (eDNA).
- Pollution and Environment and Bioremediation

## PUBLICATIONS

### 2025

- 1) Zeinab Hachem, Rayan Kashmar, Alaa M. Abdallah, Ramadan Awad, and **Mahmoud I. Khalil**. *Cyclamen libanoticum* is a Novel Bioresource for Green Silver Nanoparticles with Antibacterial and Antioxidant Capabilities. *Current Nanoscience* 21, no. 4 (2025): 731-748. <http://dx.doi.org/10.2174/0115734137310446240616164456>
- 2) May Saad, Ghewa A. El-Achkar, Rana El Hajj, Abir Abdel Rahman, **Mahmoud I. Khalil**, and Nadine Nasreddine. "Modulatory effects of *Micromeria Barbata* and 3-acetyl-11-keto-boswellic acid on advanced glycation end products-induced inflammatory cytokine response in THP-1 cells." *Edelweiss Applied Science and Technology* 9, no. 6 (2025): 1815-1835. <https://doi.org/10.55214/25768484.v9i6.8243>
- 3) Zahraa F Samadi, Zeinab R Hodroj, Ziad C Jabbour, Hadi M Hussein, Abdallah Kurdi, Dayana Shoukair, Ricardo F Bitar, Hadi H Chebaro, Jean Marie J Al Semaani, Mohamad T Al Hajjar, Housein H Zeaiter, Lama Hamadeh, Rami Mahfouz, Lama H Noueihed, Jad H Hachem, **Mahmoud I. Khalil**, Rana El Hajj, Ghassan M Matar, Antoine G Abou Fayad "Nationwide surveillance of carbapenem-resistant Gram-negative pathogens in the Lebanese environment." *Applied and Environmental Microbiology* (2025): e01932-24. <https://doi.org/10.1128/aem.01932-24>
- 4) Nourhane A.Darwich, Malak Mezher, Alaa M. Abdallah, Zeinab Hachem, Ahmed F. El-Sayed, Rana El Hajj, Taymour A. Hamdalla, and **Mahmoud I. Khalil** "Silver and Yttrium-Doped Silver Nanoparticles from Pine Needle Leaf Extract: Synthesis, Characterization, Antioxidant, Antiuropathogenic Bacterial, and Docking Activities." *Bioinorganic Chemistry and Applications* 2025, no. 1 (2025): 1566870. <https://doi.org/10.1155/bca/1566870>
- 5) Layal Abou Assi, Fatima A. Saleh, **Mahmoud I. Khalil**, and Assaad A. Eid. "Novel Insights of Lithium Chloride Therapeutic Approach for Managing Type 2 Diabetic Kidney Disease: Crosslinking Tau Hyperphosphorylation and TGF Beta Signaling." *Diabetology* 6, no. 4 (2025): 26. <https://doi.org/10.3390/diabetology6040026>
- 6) Rana Khalaf, Noura S. Abouzeinab, and **Mahmoud I. Khalil**. "Effects of Lebanese Folk Herbs on Adult Male Rats: Hepatic and Renal Toxicity, Histological, and Biochemical Studies." *Nutrients* 17, no. 5 (2025): 875. <https://doi.org/10.3390/nu17050875>
- 7) Hassan Dhaini, **Mahmoud I. Khalil**, and Rana El Hajj. "The Antimicrobial Potential of Actinomycetes Isolated from Marine Soils in Tyre City Beach, Lebanon: A Promising Source of Novel Bioactive Metabolites." *Applied Microbiology* 5, no. 1 (2025): 27. <https://doi.org/10.3390/applmicrobiol5010027>
- 8) Microbiological and physicochemical water quality assessments of the Upper Basin Litany River, Lebanon. Bohlok, Deema, Malak Mezher, Bilal Houshaymi, Maria Fakhoury, and **Mahmoud I. Khalil**. *Environmental Monitoring and Assessment* 197, no. 1 (2025): 1-27. <https://doi.org/10.1007/s10661-024-13503-3>

### 2024

- 9) The phytoremediator capacity of *Quercus cerris* L. against heavy metals contamination in the Ezer forest, Lebanon. Najib, Rola, Tarek Houry, Yara Khairallah, and **Mahmoud I. Khalil**. *Forestry Studies* 80, no. 1 (2024): 110-126. DOI: <https://doi.org/10.2478/fsmu-2024-0007>
- 10) S6K2 in Focus: Signaling Pathways, Post-Translational Modifications, and Computational Analysis. **Mahmoud I. Khalil**, Mohamed Helal, Ahmed F. El-Sayed, Rana El Hajj, Jasmine Holail, Marwa Houssein, Ahmed

Waraky, and Olivier E. Pardo. *International Journal of Molecular Sciences* 26, no. 1 (2024): 176. <https://doi.org/10.3390/ijms26010176>

- 11) Evaluation of Selected Folk Herbs on the Fertility of Sprague Dawley Male Rats: Biochemical, Histological, and Molecular Investigations. Khalaf, Rana R., Salma Khazaal, Noura S. Abouzeinab, and **Mahmoud I. Khalil**. *Life* 14, no. 12 (2024): 1620. <https://doi.org/10.3390/life14121620>
- 12) Biosynthesis; Characterization; and Antibacterial, Antioxidant, and Docking Potentials of Doped Silver Nanoparticles Synthesized from Pine Needle Leaf Extract. Darwich, Nourhane A., Malak Mezher, Alaa M. Abdallah, Ahmed F. El-Sayed, Rana El Hajj, Taymour A. Hamdalla, and **Mahmoud I. Khalil**. *Processes* 12, no. 11 (2024): 2590. <https://doi.org/10.3390/pr12112590>
- 13) Intraperitoneal hepatorenal toxicity of zinc oxide and nickel oxide nanoparticles in rats: a systematic review. Nour Kahil, Noura S. Abouzeinab, Mohamed A. A. Hussein & **Mahmoud I. Khalil**. *Nanotoxicology*, 1-16, 2024. <https://doi.org/10.1080/17435390.2024.2407352>
- 14) Green Synthesis of Yttrium Derivatives Nanoparticles Using Pine Needle Leaf Extract: Characterization, Docking, Antibacterial, and Antioxidant Potencies. Nourhane A Darwich, Malak Mezher, Alaa M Abdallah, Ahmed F El-Sayed, Rana El Hajj, Taymour A Hamdalla, **Mahmoud I. Khalil**. *Processes* 12 (8), 1713, 2024. <https://doi.org/10.3390/pr12081713>
- 15) Isolation and Characterization of Bacillus Subtilis BSP1 from Soil: Antimicrobial Activity and Optimization of Fermentation Conditions. Heba Hellany, Jean Claude Assaf, Sara Barada, Dalia el-Badan, Rana El Hajj, Sonia Abou Najem, Antoine G Abou Fayad, **Mahmoud I. Khalil**. *Processes* 12 (8), 1621, 2024. <https://doi.org/10.3390/pr12081621>
- 16) Uncovering the Therapeutic Potential of Lithium Chloride in Type 2 Diabetic Cardiomyopathy: Targeting Tau Hyperphosphorylation and TGF- $\beta$  Signaling via GSK-3 $\beta$  Inhibition. Loyal Abou Assi, Sahar Alkhansa, Rachel Njeim, Jaafar Ismail, Mikel Madi, Hilda E Ghadieh, Sarah Al Moussawi, Tanya S Azar, Maurice Ayoub, William S Azar, Sarah Hamade, Rashad Nawfal, Nina-Rossa Haddad, Frederic Harb, Wissam Faour, **Mahmoud I Khalil**, Assaad A Eid. *Pharmaceutics* 16 (7), 955, 2024. <https://doi.org/10.3390/pharmaceutics16070955>
- 17) Microbial Decontamination of Cuminum cyminum Seeds Using "Intensification of Vaporization by Decompression to the Vacuum": Effect on Color Parameters and Essential Oil Profile. Hana Tannir, Espérance Debs, Georges Mansour, Susanne Neugart, Rima El Hage, **Mahmoud I Khalil**, Nada El Darra, Nicolas Louka. *Foods* 13 (14), 2264, 2024. <https://doi.org/10.3390/foods13142264>. PMID:39063348 PMCID:PMC11275638
- 18) Valorization of sesame seed coat waste: phenolic composition, antibacterial efficacy, and nanoemulsion encapsulation for food preservation. S Khazaal, **Mahmoud I. Khalil**, TM Osaili, B Albiss, AA Al-Nabulsi, N Louka. *Frontiers in Nutrition* 11, 1405708. <https://www.frontiersin.org/journals/nutrition/articles/10.3389/fnut.2024.1405708/full>
- 19) Rosemary essential oil potentiates the antitumour activity of 5-fluorouracil in human colorectal carcinoma cells. AA El Sala, G Khawaja, **Mahmoud I. Khalil**, SA Salam. *Journal of Pharmacy and Pharmacology* 76 (6), 691-700, 2024. <https://doi.org/10.1093/jpp/rgae022> PMID:38459835
- 20) Valorization of sesame (*Sesamum indicum* L.) seed coats: Optimization of polyphenols' extraction using Ired-Irrad® and assessment of their biological activities. S Khazaal, N Louka, E Debs, **Mahmoud I. Khalil**, B Albiss, AA Al-Nabulsi, *Journal of Agriculture and Food Research* 16, 101105, 2024. <https://doi.org/10.1016/j.jafr.2024.101105>
- 21) Antibacterial and Antifungal Activities of Cimbopogon winterianus and Origanum syriacum Extracts and Essential Oils against Uropathogenic Bacteria and Foodborne Fungal Isolates. M Rammal, S Khreiss, A Badran, M Mezher, M Bechelany, C Haidar, **Mahmoud I. Khalil**. *Foods* 13 (11), 1684, 2024. PMCID:PMC11171924 <https://doi.org/10.3390/foods13111684>
- 22) Fungal Isolation, Detection, and Quantification of Aflatoxins in Nuts Sold in the Lebanese Market. H Hellany, JC Assaf, J Matta, **Mahmoud I. Khalil**. *Processes* 12 (5), 1018, 2024. <https://doi.org/10.3390/pr12051018>
- 23) The modulatory effect of Al-Assi river trout fish meal on OCD manifestations and molecular mechanisms in BALB/c Mice. F Salloum, M Farran, H Shaib, A Jurjus, R Sleiman, **Mahmoud I. Khalil**. *Functional Foods in Health and Disease* 14 (5), 299-310, 2024. <https://doi.org/10.31989/ffhd.v14i5.1321>
- 24) Magnetic separation, sunlight-driven photocatalytic activity, and antibacterial studies of Sm-doped Co<sub>0.33</sub>Mg<sub>0.33</sub>Ni<sub>0.33</sub>Fe<sub>2</sub>O<sub>4</sub> nanoparticles. A Aridi, M Rabaa, M Mezher, D Naoufal, **Mahmoud I. Khalil**, R Awad. *Environmental Science and Pollution Research*, 1-20, 2024. PMID: 38739338 <https://doi.org/10.1007/s11356-024-33641-y>
- 25) Optimization of Aqueous Extraction of Polyphenols from Cuminum cyminum Seeds Using Response Surface Methodology and Assessment of Biological Activity. H El Tannir, D Houhou, E Debs, M Koubaa, A Jammoul, B Azakir, **Mahmoud I. Khalil**. *BioTech* 13 (1), 7, 1, 2024. PMID:38534916 PMCID: PMC10968084 <https://doi.org/10.3390/biotech13010007>
- 26) Characterization, antioxidant, antibacterial, and antibiofilm properties of biosynthesized Ag/AgCl nanoparticles using *Origanum ehrenbergii* Boiss. Z Hachem, R Kashmar, AM Abdallah, R Awad, **Mahmoud I. Khalil**. *Results in Materials* 21, 100550, 2024. <https://doi.org/10.1016/j.rinma.2024.100550>

- 27) Characterization of Actinobacteria strains in Lebanese soil with an emphasis on investigating their antibacterial activity. R Zahr, S Zahr, R El Hajj, **Mahmoud I. Khalil**. Brazilian Journal of Microbiology, 1-13, 2024. PMID: 38228935 PMCID: PMC10920600 <https://doi.org/10.1007/s42770-023-01242-5>
- 28) Fabrication, characterization, and antibacterial activity of ferrite, chromite, and aluminate nanoparticles. I El Hajjar, M Al Bitar, R Zahr, S Zahr, **Mahmoud I. Khalil**, R Awad. Materials Research Express 11 (1), 015003, 1, 2024. <https://doi.org/10.1088/2053-1591/ad1774>
- 29) *T. Boudieri* Extract Potentiates the Effects Of Capecitabine Treatment In Human Colon Cancer Cells. Katia Sawaya, **Mahmoud I. Khalil**, and Ghada Khawaja. BAU Journal-Science and Technology 5.2 (2024): 10. <https://doi.org/10.54729/2959-331X.1133>
- 30) Establishing an OCD Model in BALB/c Mice Using RU24969: A Molecular and Behavioural Study of Optimal Dose Selection. F Salloum, M Farran, H Shaib, A Jurjus, R Sleiman, **Mahmoud I. Khalil**. Behavioural Neurology 2024 (1), 4504858, 2024. <https://doi.org/10.1155/2024/4504858> PMID:38566972 PMCID:PMC10985275

## 2023

- 31) Investigation of the physical properties and antibacterial activity of various ferrite, chromite, and aluminate nanocomposites. I El Hajjar, M Al Bitar, S Zahr, R Zahr, **Mahmoud I. Khalil**, R Awad. Journal of Alloys and Compounds 968, 171953, 2, 2023. <https://doi.org/10.1016/j.jallcom.2023.171953>
- 32) Quantification, Prevalence, and Pretreatment Methods of Mycotoxins in Groundnuts and Tree Nuts: An Update. H Hellany, JC Assaf, D El-Badan, **Mahmoud I. Khalil**. Processes 11 (12), 3428, 2, 2023. <https://doi.org/10.3390/pr11123428>
- 33) Growth or death? Control of cell destiny by mTOR and autophagy pathways. **Mahmoud I. Khalil**, MM Ali, J Holail, M Houssein. Progress in Biophysics and Molecular Biology, 6, 2023. PMID: 37944568 <https://doi.org/10.1016/j.pbiomolbio.2023.10.002>
- 34) Impact of GSM-EMW exposure on the markers of oxidative stress in fetal rat liver. M Salameh, S Zeitoun-Ghandour, L Sabra, A Daher, **Mahmoud I. Khalil**, Scientific Reports 13 (1), 17806, 2023. <https://doi.org/10.1038/s41598-023-44814-z> PMID:37853153 PMCID:PMC10584814
- 35) *Quercus Cerris* L.: Antibacterial And Antibiofilm Potential. R Najib, M Mezher, T Hourri, Y Kairallah, **Mahmoud I. Khalil**. Journal of microbiology, biotechnology and food sciences 13 (3), e9843-e9843, 2023. <https://doi.org/10.55251/jmbfs.9843>
- 36) Phytochemistry and biological activities of Citrus sinensis and Citrus limon: An update. S Zahr, R Zahr, R El Hajj, **Mahmoud I. Khalil**. Journal of Herbal Medicine, 100737, 8, 2023. <https://doi.org/10.1016/j.hermed.2023.100737>
- 37) Improved Photocatalytic and Antibacterial Activity of Mg<sub>0.33</sub>Ni<sub>0.33</sub>Co<sub>0.33</sub>GdxFe<sub>2-x</sub>O<sub>4</sub> Nanoparticles Synthesized via the Co-precipitation Method. M Rabaa, M Mezher, A Aridi, D Naoufal, **Mahmoud I. Khalil**, R Awad. ChemistrySelect 8 (29), e202301951, 2, 2023. <https://doi.org/10.1002/slct.202301951>
- 38) Pterostilbene induces apoptosis in hepatocellular carcinoma cells: Biochemical, pathological, and molecular markers. **Mahmoud I. Khalil**, AF Agamy, SS Elshewemi, AS Sultan, NE Abdelmeguid. Saudi Journal of Biological Sciences 30 (8), 103717, 4, 2023. <https://doi.org/10.1016/j.sjbs.2023.103717> PMID:37483838 PMCID:PMC10359945
- 39) Asymmetric dimethylation of Ribosomal S6 Kinase 2 regulates its cellular localisation and pro-survival function. **Mahmoud I. Khalil**, HM Ismail, G Panasyuk, A Bdzhola, V Filonenko, I Gout, International Journal of Molecular Sciences 24 (10), 8806, 1, 2023. <https://doi.org/10.3390/ijms24108806> PMID:37240151 PMCID:PMC10218830
- 40) Impact of Mg-doping on the structural, optical, and magnetic properties of CuO nanoparticles and their antibiofilm activity. R Adnan, AM Abdallah, M Mezher, M Noun, **Mahmoud I. Khalil**, R Awad. Physica Scripta 98 (5), 055935, 6, 2023. <https://doi.org/10.1088/1402-4896/acccba>
- 41) Influence of Lanthanum Doping on the Photocatalytic and Antibacterial Capacities of Mg<sub>0.33</sub>Ni<sub>0.33</sub>Co<sub>0.33</sub>Fe<sub>2</sub>O<sub>4</sub> Nanoparticles. M Rabaa, M Mezher, A Aridi, D Naoufal, **Mahmoud I. Khalil**, R Awad, W Abdeen. Catalysts 13 (4), 693, 4, 2023. <https://doi.org/10.3390/catal13040693>
- 42) Investigation of structural, optical, electrical, magnetic and antibacterial properties of (Mn and Sm) co-doped CdO nanostructures. R Halabi, AM Abdallah, **Mahmoud I. Khalil**, R Awad, M Mattar. Applied Physics A 129 (4), 307, 1, 2023. <https://doi.org/10.1007/s00339-023-06606-0>
- 43) Characterization and evaluation of the therapeutic benefits of pure and lanthanides mono-and co-doped zinc oxide nanoparticles. M Al Bitar, B Hassanieh, R Awad, **Mahmoud I. Khalil**. Saudi Journal of Biological Sciences 30 (4), 103608, 7, 2023. <https://doi.org/10.1016/j.sjbs.2023.103608> PMID:36923212 PMCID:PMC10009547
- 44) Biological factors underpinning suicidal behaviour: an update. MN Abou Chahla, **Mahmoud I. Khalil**, S Comai, L Brundin, S Erhardt, GJ Guillemin. Brain sciences 13 (3), 505, 12, 2023. PMID:36979315 PMCID:PMC10046421 <https://doi.org/10.3390/brainsci13030505>

- 45) Characterisation and biological activity of rare-earth ion (Ce<sup>3+</sup>)-doped ZnO nanoparticles. MA Bitar, **Mahmoud I. Khalil**, R Awad. International Journal of Nanoparticles 15 (1), 41-67, 2023. <https://doi.org/10.1504/IJNP.2023.135768>
- 46) Optimization Of The Bio-synthesis Of Magnesium Nanoparticles From Staphylococcus Haemolyticus: A Pilot Study. M Bassam, M Mezher, **Mahmoud I. Khalil**. BAU Journal-Science and Technology 5 (1), 4, 2023. <https://doi.org/10.54729/2959-331X.1107>
- 47) Intraperitoneal hepato-renal toxicity of zinc oxide and nickel oxide nanoparticles in male rats: biochemical, hematological and histopathological studies. NS Abouzeinab, N Kahil, N Fakhruddin, R Awad, **Mahmoud I. Khalil**. EXCLI journal 22, 619, 2, 2023. <https://doi.org/10.17179/excli2023-6237> PMID: PMC10471841. PMID: 37662710
- 48) Proapoptotic and Antiproliferative Effects of the Desert Truffle Terfezia boudieri on Colon Cancer Cell Lines. K Sawaya, S Abou Najem, G Khawaja, **Mahmoud I. Khalil**. Evidence-Based Complementary and Alternative Medicine 2023 (1), 1693332, 1, 2023. <https://doi.org/10.1155/2023/1693332> PMID:37064948 PMCID:PMC10104735
- 49) Actinomycetes, Promising Therapeutic Agents: Characteristics and Active Metabolites. R Zahr, S Zahr, R El Hajj, **Mahmoud I. Khalil**. Journal of Biology and Today's World 12 (1), 1-8, 2023. <https://doi.org/10.35248/2322-3308.11.6.001>

## 2022

- 50) Beneficial role of naringin against methotrexate-induced injury to rat testes: biochemical and ultrastructural analyses. H Elsayy, AM Alzahrani, M Alfwuaires, AM Abdel-Moneim, **Mahmoud I. Khalil**. Redox Report 27 (1), 158-166, 8, 2022. <https://doi.org/10.1080/13510002.2022.2101832> PMID:35861275 PMCID:PMC9310850
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- 60) Association of FTO gene variants rs9939609 and rs1421085 with polycystic ovary syndrome. AA Alnafjan, AF Alkhuriji, HM Alobaid, ZA Babay, **Mahmoud I. Khalil**. Egyptian Journal of Medical Human Genetics 23 (1), 45, 1, 2022. <https://doi.org/10.1186/s43042-022-00263-3>
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## 2016 - 2012

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## PEER REVIEWING (Journal – ISSN – Publisher)

PLoS ONE – 1932-6203 – San Francisco CA: Public Library of Science

Molecules – 1420-3049 – MDPI

Biological Trace Element Research – 0163-4984 – Humana Press

**International Journal of Molecular Sciences** – 1422-0067 – MDPI

**Molecular Biology Reports** – 0301-4851 – Springer

**Pharmaceutics** – 1999-4923 – MDPI

**IET Nanobiotechnology** – 1751-8741 – Institute of Engineering & Technology

**Heliyon** – 2405-8440 – Elsevier

**Cells** – 2073-4409 – MDPI

**Annals of Medicine** – 0785-3890 – Taylor & Francis Group

**Life** – 2075-1729 – MDPI

**Genetics Research** – 0016-6723 – Hindawi - Cambridge University Press

**Renal Failure** – 0886-022X – Informa Healthcare

**Cancers** – 2072-6694 – MDPI

**Journal of the Entomological Research Society** – 1302-0250 – Gazi Entomological Research Society

**Journal of Assisted Reproduction and Genetics** – 1573-7330 – Springer

**Journal of King Saud University - Science** – 1018-3647 – Elsevier

**Journal of Taibah University for Science** – 1658-3655 – Taylor & Francis Group

**Asian Pacific Journal of Tropical Biomedicine** – 2221-1691 – Wolters Kluwer - Medknow

**Egyptian Journal of Medical Human Genetics** – 1110-8630 – Ain Shams University, Egypt

## ACADEMIC COURSES TAUGHT

### Undergraduate Courses

- **Pre-Dentistry, Pre-Pharmacy, and First level Science Courses:** Physiology; Cytology; Histology; Genetics; Animal Taxonomy; General Biology
- **First Level Medical students:** Molecular biology; Genetics
- **Second level Science Courses:** Cell Biology
- **Second Level Medical students:** Recombinant DNA
- **Third level Science Courses:** Molecular Biology (1); Cell Differentiation & Tissue Culture; Micro-techniques and Cellular Imaging; Practical Molecular Biology
- **Third Level Medical students:** Immunology; Genetics
- **Fourth level Science Courses:** Cell & Tissue Culture; Cellular Signal Transduction; Molecular Biology (2); Molecular Neurobiology; Biotechnology; Bioinformatics; Endocrinology; Developmental Biology; Senior Project.

### Postgraduate Courses

Advanced Cell Biology; Signal Transduction; Genomics and Proteomics; Systems Biology; Protein Analysis; Epigenetics & Cancer; Molecular Diagnostics; Mammalian Toxicology; Special Topics in Molecular Biology; Animal Cell culture & Tissue Engineering; Biology of RNA; Advanced Proteomics; Research Techniques; and Independent Studies.

## RESEARCH THESES SUPERVISION & REVIEWING

**[2010 – Current]** *Details are available upon request.*

- Supervised: 36 MSc and 25 PhD
- Reviewed: 37 MSc and 16 PhD

## PROFISSIONAL & PERSONAL SKILLS

### Molecular Biology Skills

Protein interaction / Western blotting / Gene cloning from bacteria / Plasmid and genomic DNA and RNA isolation / Chromatography SDS PAGE ELISA / In vitro radioactive methylation and kinase assays / Enzyme and hormonal assays / Expression and purification recombinant protein / Site-directed mutagenesis / Subcellular fractionation / Co-immunoprecipitation / Protein isolation / Chromatin immunoprecipitation (ChIP) / RT-PCR and cDNA techniques

### Cell Biology Skills

RNAi knockdowns / Mouse bone marrow isolation / Hybridoma and cell lines culture for recombinant protein and antibody production / Physiological assays investigating cellular growth and apoptosis / Growth inhibition cell kill cytotoxicity assay (IC50) / Quantitative/qualitative mitotic index analyses for drug candidate compounds/ Microscopy (fluorescent and light microscopy) / Primary cell culture / Transfection optimization / Survival Proliferation Assays

### Histology Skills

Immunohistochemistry / Immunocytochemistry / Processing of histological sections

### Bioinformatics Skills

Polymorphism analysis and association to diseases / Wide use of ExPASy web site / Analysis of mutations in cancer (Oncogenomics) / Motif analysis of proteins / Restriction analysis for genes / PrimerBLAST / Sequence alignment / Design Primers / Comparative genome analysis / Tree building using dnamL and PHYLIP

### Digital Skills

Microsoft office (Word/Excel/Powerpoint/Outlook) / Quantity One / Graph Pad Prism 5 / Molecular Docking/ Adobe Photoshop / Operating system Apple and Microsoft / Moodle learning platform / Microsoft Teams/ Social media / Video Conferencing (Zoom/Skype/Google/Hangout) / Video editor / File sharing software/Google Drive/Dropbox/OneDrive / Basic Image editing (GIMP) / Social Media Management (Facebook / Twitter / LinkedIn / YouTube)

### Personal Skills

Adaptability / Resilience / Creativity / Organizational and planning skills / Written and Verbal skills / Team-work oriented / Responsibility / Motivated / Good listener and communicator / Learnability / Decision-making / Critical thinking / Research and analytical skills / Analytical skills / Reliability / Conflict resolution / Problem solver / Fast learner

## PROJECTS

- **[2019 – 2022]** International Post Graduate Studies in Environmental Management and Sustainability for Mediterranean Countries (ENVIPRO-MED) - International Project: Montpellier University and Institute of Research for Development (IRD), France. (Collaborator)
- **[2016 – 2018]** Novel Bacterial Redox Protein Nanofibers Delivery System: A Promising therapeutic Treatment Strategy for Hepatocellular Carcinoma - National Project: STDF project granted the Egyptian government (Principal Investigator)
- **[2014 – 2017]** Targeting Therapy for Advanced Hepatocellular Carcinoma stem cells by Novel Microarray. National Project: AlexRep project granted by Alexandria University, Egypt (Co-Principal Investigator)
- **[2010 – 2012]** Evaluation of the Microbiological Safety of Fresh Produce Leafy Greens and their Potential Contamination with Escherichia coli serotype O157:H7 - National Project: Alex Rep project granted by Alexandria University, Egypt (Collaborator)
- **[2011 – 2013]** Implementing a Scientific International master for biotechnology and neuroscience in the South Mediterranean Area - International Project: Tempus project " granted by the European Commission (Teacher)

## CONFERENCES AND SEMINARS

- **[27/04/2024 – 04/05/2024] Conference (Session chair & Invited Speaker):** 9th International Conference on Superconductivity and Magnetism (ICSM2024), Fethiye-Oludeniz, Turkey. "Synthesis and Characterization of Biosynthesized Silver and Yttrium–Doped Silver Nanoparticles from Pine Needle Leaf Extract and their Antibacterial Activity Against Uro-pathogenic Bacteria"
- **[15/12/2023] Seminar:** Invited speaker: Dr. Ahmed Waraky, Cambridge Stem Cell Institute. Department of Haematology - University of Cambridge. United Kingdom. Title of the talk: Single cell omics and machine learning in the determination of hematopoietic stem cell signature.
- **[09/05/2023 – 11/05/2023] Conference (Invited Speaker):** The Royal Society of Medicine - S6 kinases in health and cancer, London, United Kingdom - Asymmetric Dimethylation of Ribosomal S6K2 Regulates Its Cellular localisation and Pro-survival Function
- **[04/05/2023 – 09/05/2023] Conference (Speaker):** 8th International Conference on Superconductivity and Magnetism - ICSM2023, Fethiye-Oludeniz, Turkey - Fabrication, Characterization, and Antibacterial Activity of Ferrite, Chromite, and Aluminate Nanoparticles

- **[20/02/2021 – 23/02/2021] Conference (VIP guest):** Arab Forum of Science Media and Communication. Theme “Building Capacities and Facing Challenges”. Arab Forum SMC is a fully virtual regional event with a focus on Challenges that face Science Media and Communication in Arab Countries. The forum brings together the top Arab leaders in Science Media and Communication to exchange ideas, thoughts, and empower community with post-pandemic skills. The forum features over 30 sessions, +50 speakers, besides the exhibitions and networking arena.
- **[08/04/2019 – 09/04/2019] Young Biologists Symposium (YBS-2019):** Advances in Biological Sciences. Lebanese American University, Lebanon.
- **[14/11/2012 – 16/11/2012] Genetics and Epigenetics of Genome Integrity.** MD Anderson Cancer Center, Molecular Carcinogenesis Department, University of Texas, USA
- **[28/12/2016 – 29/12/2016] 40th Annual International Conference of Egyptian Society of Histology and Cytology.** Faculty of Medicine, Kafrelsheikh University, Egypt.
- **[11/11/2016 – 12/11/2016] 8th International Conference on Biological Science (ICBS) in Collaboration with 21th International Conference of EGSZ.** Faculty of Science. Tanta University, Egypt.
- **[23/02/2014 – 24/02/2014] 1st Annual Conference of the Center of Excellence in Cancer Research (CECR), Next Generation Cancer Research & Diagnosis.** Tanta University, Egypt.

## HONOURS AND AWARDS

**Post-doctoral Fellowship** – MD Anderson Cancer Center, Department of Molecular Carcinogenesis, the University of Texas [05/06/2012]

**Ph.D. Scholarship** – Egyptian government for use in the United Kingdom [2006]

**Top undergraduate student on the Department** – Faculty of Science, Alexandria University, Egypt [1997] - Excellent with Honors

## PRESENTATIONS / WORKSHOPS / WEBINARS / COMMENTS

- **[24/04/2024 – 25/04/2024] Workshop: Referee “21<sup>st</sup> Mobarat ElOloum (2024)”** National Association for Science and Research (NASR), Lebanese University, Lebanon.
- **[26/01/2024] Workshop: Speaker and organization of the workshop “Western blotting and ELISA”** for Arwan pharmaceutical industries Lebanon
- **[18/03/2023] Workshop: Referee “3rd Annual Science Fair”** Faculty of Science, Beirut Arab University, Lebanon.
- **[30/05/2022 – 02/06/2022] Workshop: Pedagogic PSF Training Workshop.** Montpellier University, France
- **[26/12/2021] Webinar: Main Speaker "How to Fish for a Novel Research Question-Use PubMed as a Pro"** (Link: <https://bit.ly/PubmedAsPRO>) Faculty of Science, Alexandria University, Egypt. How to Fish for a Novel Research Question - Use PubMed as a Pro © 2022 by Dr. Mahmoud Khalil is licensed under CC BY-NC-SA 4.0. To view a copy of this license, visit: <http://creativecommons.org/licenses/by-nc-sa/4.0/> Topics covered: 1) PubMed® Overview. 2) How to create a PubMed® account. 3) PubMed® Basic Search by Keywords. 4) Controlled Vocabulary (MeSH Terms). 5) Some of Features and Filtering Tools of PubMed®. 6) Finding On-Topic Articles. 7) PubMed® Robust Search – Advanced Search. 8) MyNCBI Creating Alerts & Saving Results.
- **[17/04/2021] Webinar: Main Speaker “Production Steps of OER”** (Link: <https://bit.ly/3xYLGgt>) An Initiative of Alexandria University, OERWiki@MENA (Link; <https://bit.ly/3bdRjOe>), to develop and use OER in the Middle East and North Africa region, in cooperation with the University of Sousse in Tunisia. The initiative aims to produce and share 100 educational resources in 100 days for students and academics which will lead to more equitable access to education and will serve a broader base of learners than traditional education.
- **[28/02/2021] Webinar: Main Speaker “Keys of OER - OERWiki@Mena”** An Initiative of Alexandria University, OERWiki@MENA (Link; <https://bit.ly/3bdRjOe>), to develop and use OER in the Middle East and North Africa region, in cooperation with the University of Sousse in Tunisia. The initiative aims to produce and share 100 educational resources in 100 days for students and academics which will lead to more

equitable access to education and will serve a broader base of learners than traditional education. (Link: <https://youtu.be/cqdlutiT4rA>)

- **[20/02/2021]** Webinar: Main Speaker "Epigenetics: Future Road for Cancer Therapy" An Invitation from Friends Innovative Technology and Science (FITS). The FITS initiative is committed to raising scientific awareness among the public audience and spreading cutting- edge science and knowledge. FITS targets STEM students and science professionals across the Arabs nation. (Link: <https://youtu.be/JP9E2su9qrg>)
- **[21/10/2020]** Public Comment on research Article: CRISPR-mediated gene modification of hematopoietic stem cells with betathalassemia IVS-1-110 mutation. An invitation from the Scientific American Magazine, a Division of Springer Nature America to comment on a research article. The comments were published in the Arabic version "For Science" magazine **للعلم** (Link: [www.scientificamerican.com](http://www.scientificamerican.com))
- **[26/08/2020 – 27/08/2020]** Workshop: Referee "17th Mobarat EIoloum" National Association for Science and Research (NASR), Lebanese University, Lebanon.
- **[21/07/2020]** Webinar: Main Speaker "e-Cheating and e-Authentication" within the activities of the Alexandria University Unit for Pedagogical Innovation and Distance Learning (ADIP). Link: <https://youtu.be/BD86laHJoX4>
- **[10/04/2019 – 11/04/2019]** Workshop: Referee "16th Mobarat EIoloum" National Association for Science and Research (NASR), Lebanese University, Lebanon.
- **[07/05/2018]** Workshop: Speaker "Epigenetics and Neuroresearch" International Brain research organization (IBRO)-African Regional Committee
- **[19/10/2016 – 19/10/2016]** Workshop: Referee "Science Initiative 3" Zewail City Friends for Science and Technology, Egypt.
- **[20/09/2016]** Workshop: Speaker "Shed Light on Neuroscience; Physiological, Cellular and Molecular Approaches" Faculty of Science, Alexandria University, EGYPT.
- **[14/01/2015]** Workshop: Speaker & Organizing "Courses Reports and Exam ILOs for Quality Assurance & Accreditation" Faculty of Science, Alexandria University, EGYPT.
- **[18/08/2014 – 20/08/2014]** Workshop: Teaching & Organizing "Advanced Molecular Biology Techniques in Biomedical Research" Faculty of Science, Alexandria University, EGYPT.
- **[11/12/2012]** Presentation: Altering the Function of a Kinase by Arginine methylation. MD Anderson Cancer Center, Department of Molecular Carcinogenesis, University of Texas, USA.
- **[22/07/2011 – 27/07/2011]** Workshop: Teaching & Organizing "2D & 3D Tissue Culture Techniques and Advanced Molecular Biology Applications" Faculty of Science, Alexandria University, EGYPT.
- **[09/01/2011]** Presentation: Cancer Cell Signaling. Faculty of Science, Alexandria University, EGYPT.
- **[14/01/2010]** Presentation: The Role of Arginine Methylation in Regulating the Function of S6K2. MRC Protein Phosphorylation Unit, University of Dundee, Dundee, United Kingdom.
- **[04/12/2008]** Presentation: A novel post translational modification of S6K2. Department of Biosciences, University College London. United Kingdom

## TRAINING & TECHNICAL SKILLS ACQUIRED

- **Experimental Design and Statistical Analyses Systems** [06/08/2022 – 09/08/2022] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **E – Exams** [25/07/2022 – 26/07/2022] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **University Laws and Regulations** [24/06/2022 – 25/06/2022] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Adaptability and Resiliency** [28/02/2022 – 26/03/2022] University of California, Davis (UCDAVIS) - Coursera
- **Moodle Quiz/Exam Assessment Tool: Best Practices** [15/07/2020 – 15/07/2020] Utah State University, USA
- **Moodle as a Learning Management System** [05/06/2020 – 29/06/2020] Innovation in Pedagogy and Aiding Distance Learning Unit (ADIP), Alexandria University, EGYPT.

- **Teaching threshold & recognizing cognitive overload** [09/11/2019] Beirut Arab University, Lebanon
- **Harmless Use of Nuclear and Radiation Energy** [27/03/2019] Beirut Arab University, Lebanon
- **IBCT - Training of Trainers (TOT): Associate Trainer level program** [09/01/2018 – 13/01/2018] International Board of Certified Trainers, Egypt.
- **E-learning** [21/11/2017 – 22/11/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Leadership and Strategic planning** [07/11/2017 – 08/11/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Executive Leadership Development** [06/11/2017 – 07/11/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt
- **Designing and Developing the Digital Content** [09/06/2017 – 10/06/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **International Publishing of Research** [04/06/2017 – 05/06/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Innovative Problem-Solving and Decision-Making** [21/05/2017 – 22/05/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Research Implementation and Research Team Management** [12/05/2017 – 13/05/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **University Legal and Financial Aspects** [09/05/2017 – 10/05/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **References Management System** [29/01/2017 – 30/01/2017] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Strategic planning** [27/12/2014] Faculty of Science, Alexandria University, EGYPT.
- **Introduction of Bioinformatics** [14/05/2014] Tanta University, Egypt
- **Radiation and the Safe use of radioactive isotopes** [14/10/2012] MD Anderson Cancer Center, USA
- **Neurotoxicity and Environment** [15/10/2011 – 18/10/2011] Alexandria University, Egypt.
- **External Audit for Higher Education Institutions** [11/12/2010 – 15/12/2010] National Authority for Quality Assurance and Accreditation of Education (NAQAAE), Egypt.
- **Institutional self-evaluation of higher education institutions** [24/09/2010 – 28/09/2010] National Authority for Quality Assurance and Accreditation of Education (NAQAAE), Egypt.
- **Research Ethics** [28/06/2010 – 30/06/2010] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Quality Standards in the Education Process** [25/06/2010 – 27/06/2010] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **How to Publish a World Class Paper** [18/06/2009] University College London, UK
- **Using Time More Effectively as a Research Student** [06/05/2009] University College London, UK
- **Intellectual Property - What is it & how can be used?** [16/03/2009] University College London, UK
- **Advanced Excel Statistical Formulae and Functions** [10/03/2009] University College London, UK
- **Charting with Excel** [24/02/2009] University College London, UK
- **Excel Formulae and Functions** [03/02/2009] University College London, UK
- **Code of Ethics** [04/02/2008 – 06/02/2008] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Teaching with Technology** [01/02/2008 – 03/02/2008] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **A Short Introduction to Bioinformatics** [06/06/2007] University College London, UK
- **Presentation Skills** [10/05/2007] University College London, UK
- **How to Write a Good Scientific paper** [08/05/2007] University College London, UK
- **Overcoming Writer's Block for Research Students** [01/05/2007] University College London, UK

- **Effective Academic Writing** [06/03/2007] University College London, UK
- **Optical Microscopy** [11/07/2006] University College London, UK
- **Using Word for Dissertations/Theses** [29/05/2006] University College London, UK
- **Getting Started with Reference Manager** [17/05/2006] University College London, UK
- **UCL Health and Safety Course** [12/03/2006] University College London, UK
- **UCL Radiation Course** [23/02/2006] University College London, UK
- **Thinking Skills** [19/11/2004 – 22/11/2004] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **Communication Skills** [01/10/2004 – 04/10/2004] Faculty and Leadership Development Center (FLDC), Alexandria University, Egypt.
- **How to be a leader** [09/2003] Helwan University, Egypt
- **Academic teaching** [08/2000] Alexandria University, Egypt

## RESEARCH STATEMENT

### *Summary - Details are available upon request*

- The expertise I gained during my PhD as well as the knowledge of complex cell signaling pathways, regulation of growth and energy metabolism in cancer, and a broad range of molecular cell biology techniques facilitated my aim to enhance my experience, knowledge, and career to work at Prof. Mark Bedford's laboratory at MD Anderson Cancer Center, Department of Molecular Carcinogenesis, University of Texas, USA, as a postdoctoral fellow in 2012. We were able to develop a novel small molecule inhibitor for the epigenetic reader Spindlin1 protein that is capable of blocking Spindlin1 transcriptional-coactivator activity. This work was published in a very prestigious journal, Nature Chemical Biology (Q1; IF:12.7).
- Recent years were very fruitful, as we managed to publish in excess of 25 papers in high-impact journals. I am interested in the signal transduction line of research which concerns the mechanisms by which biological information is transferred between cells. Recently, we published an important article in Life Sciences in which we suggested a strong potential for thymoquinone to enhance the drug targeting effects of the standard clinical drugs, arsenic and interferon alpha, against human T-cell leukemia/lymphoma. Additionally, we have published a review in Drug Discovery Today (Top 5% - Q1; IF:6.88) on apoptosis as a mechanism for the treatment of Adult T cell Leukemia.
- I am deeply interested in green nanomaterials and its biological applications, as a second interest in research. We had, in 2020, two very interesting papers in high-impact journals; Frontiers in Bioengineering and Biotechnology and RSC Advances - The Royal Society of Chemistry.
- As for my third line of research, I am extremely interested in studying the effect of phytochemicals on diseases. Very recently we had a paper in Bioscience Reports. we described how the phytochemical, Naringin, alleviated methotrexate-induced liver injury in animal model and how the antitumor efficacy of methotrexate against hepatocellular carcinoma was enhanced when combined with naringin.
- Other interests in research include polymorphism association with diseases, epigenetics, and environmental DNA (eDNA).
- Beside exploring other avenues in my current research, I have two major aims that I hope I can accomplish. My first aim is to establish/supervise a mammalian recombinant protein laboratory that will enable the production of various protein molecules including enzymes, hormones, and more importantly monoclonal antibodies (mAbs). These antibodies can specifically bind to cancer-cell-specific antigens and induce an immune response against the target cancer cell. My second aim is to establish/supervise a green nanomaterial laboratory where we will be able to investigate its biological potential and applications. Green nanoparticles are potent antimicrobial and anticancer agents due to their large surface area and small size that facilitates the interaction with their targets.

## TEACHING STATEMENT

### *Summary - Details are available upon request*

- My objective is to foster the acquisition of scientific concepts and learning skills to ease further learning and thinking. All students are unique and must have a stimulating educational environment where they can grow mentally, socially,

and emotionally in a safe environment. Several essential elements are crucial for the student-centred teaching and learning environment; the academic character, hands-on activities available to students, curiosity-based learning, practicing skills in a safe environment, and technology incorporation in the learning process.

- As an educator, I have around 25 years of experience in academic teaching. I have pursued extensive teaching for undergraduate and postgraduate students in 4 different countries, UK, USA, Egypt, and Lebanon. During my PhD at UCL, UK, I was a post-graduate teaching assistant and worked with first- and second-year undergraduates, where I taught them diverse experimental biochemistry and molecular biology practical skills. During my postdoctoral fellowship at MD Anderson Cancer Center, USA, I guided/tutored a lot of graduate students through their work. I got exposed to different cultures, met different students which enabled me to face so many situations which is crucial in my teaching experience.
- I am especially interested in teaching courses in Molecular Biology, Genetic Engineering, Biotechnology, Cell Differentiation & Tissue Culture, Bioinformatics, Cellular Imaging, Mechanism of Cancer, Molecular Genetics, Immunology, Developmental Biology, Endocrinology, Mammalian Toxicology, General Biology, Genomics & Proteomics, Advanced Cell Biology, and Signal Transduction.
- Even after several years of teaching, I keep on looking for additional ways to grow as a university instructor and enhance my educational capabilities. One of my aims is to develop a course at the interface of green nanomaterials and biological applications. I am also comfortable working with a team with colleagues to develop a highly collaborative and interdisciplinary course that could discuss signal transduction, green nanomaterials, and molecular medicine in the context of different diseases or biological systems. As a supervisor, I have supervised in excess of 65 master and PhD theses.
- A good instructor challenges his students to think, generates curiosity, and links the lecture material to the real world. Being well-prepared, organized, and knowing when to take disciplinary action should be assets of a good academic instructor to promote positive behaviours and hence promote learning.

## EXTRACURRICULAR ACTIVITIES 1

- On a different approach, but extremely important for the nowadays booming online teaching and learning environment, I am interested in raising awareness about Learning Management Systems (LMS), Copyrights & Creative Commons (CC), eCheating and eAuthentication. I am an experienced user of the Moodle LMS (Links; <http://bit.ly/3cpJFI2>). In collaboration with the Innovation in Pedagogy and Aiding Distance Learning Unit (ADIP unit), Alexandria University, Egypt, I was invited as a main speaker to present several lectures (Link; <https://bit.ly/2RC2edA>) including; eCheating & eAuthentication (Link; <https://youtu.be/BD86laHJoX4>).
- Additionally, I am deeply involved in raising awareness about Open Educational Resources (OER). To this aim, I am involved in the initiative of Alexandria University, OERWiki@MENA (Link; <https://bit.ly/3bdRjOe>), to develop and use OER in the Middle East and North Africa region, in cooperation with the University of Sousse in Tunisia. The initiative aims to produce and share 100 educational resources in 100 days for students and academics which will lead to more equitable access to education and will serve a broader base of learners than traditional education. I was invited to present Keys of OER (Link; <https://youtu.be/cqdlutiT4rA>), Production Steps of OER (Link; <https://bit.ly/3xYLGgt>), and OER & CC (Link; <https://youtu.be/0wtMNNPAbJU>).
- Additionally, I am an instructor for 2 workshops at Faculty and Leadership Development Center (FLDC), Alexandria University, EGYPT, Preparation of competitive research projects (B1) and conducting research projects and managing the research team (C1).

## EXTRACURRICULAR ACTIVITIES 2

- **(Mar 2019-Present)** Representative and coordinator of BAU at the Lebanese Standards Institution – LIBNOR.
- **(Jan 2018-Present)** Associate certified trainer in the International Board of Certified Trainers (IBCT).
- **(June 2017-Present)** Lecturer and Trainer at Faculty and Leadership Development Center (FLDC), Alexandria University, EGYPT.
- **(23-24 Apr 2016)** Organizing Committee for 7th Environmental Forum: Climate change and sustainable development objectives. Alexandria University, EGYPT.
- **(2010)** Member of organizing Committee for Graduation Ceremony for Faculty of Science.
- **(2009)** Organizing the 1 Annual Conference for the Egyptian Scholars in United Kingdom.
- **(2008-2009)** President of the Egyptian Scholars' union in the United Kingdom.
- **(Apr 2002)** Training at the Pioneers' Institute (Ministry of Higher Education, EGYPT).
- **(1997-Present)** Member of the General Egyptian Society for the Talented.

- **(1995-1997)** Managing Sports Committee of Students' Union of Faculty of Science, Alexandria University, EGYPT including the arrangement of national sports competitions for undergraduates.

## LANGUAGE SKILLS

- **Arabic** - Mother tongue language:
- **English** - Listening C2, Reading C2, Writing C2, Spoken Production C2, Spoken Interaction C2.
  - C2 level: The highest-level qualification – Highly competent speaker of English. A C2 Proficiency denotes communication with fluency and sophistication of a highly competent English speaker.

## HOBBIES AND INTERESTS

- Reading, Football, Tennis, Fishing, Crafting, and DIY.

## PROFESSIONAL REFEREE

### Prof. Hesham El-Askary

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