

Mai F. Tolba, Ph.D

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PERSONAL DATA

- Date of birth: 4-9-1984
- Place of Birth: Abu-Dhabi, United Arab Emirates
- Nationality: Egyptian

EDUCATION

- 2021-current** FDA-AACR Oncology Educational Fellow, Oncology Center of Excellence, US-Food and Drug Administration (FDA)
- 2016-2017** Fulbright Postdoctoral fellow, *Department of Medicine, School of Medicine, University of California Irvine, Irvine, California, USA*
- 2016-2017** Fulbright Postdoctoral fellow, *Chapman University School of Pharmacy, Irvine, California, USA*
- 2011-2013** *Ph.D. Degree in Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt through a Scholarship under the Channel System and Joint Supervision Scheme at The University of Texas Medical Branch, Galveston, Texas. Title of the thesis: "Studies on the Potential Chemo-modulatory Effects of a Honey-Bee product in Prostate Cancer Cells".*
- 2013** **Research Fellow, The University of Texas Medical Branch, Galveston, Texas, USA**
- 2008 – 2011** *M. Sc., Ain Shams University, Faculty of Pharmacy, Egypt*
Master's degree of pharmaceutical sciences, Pharmacology and Toxicology. Title of the thesis: "Pharmacological Study on the influence of Pretreatment with a Multiple Dosing Regimen of Tamoxifen on the Pharmacokinetics of Epirubicin".
- 2001 – 2006** *B.Sc., Ain Shams University, Faculty of Pharmacy, Egypt*
Bachelor's degree of Pharmaceutical Sciences with a general grade of "Excellent" With Honors.

PROFESSIONAL EXPERIENCE

- 2021-current** *Associate Professor of Pharmacology, School of Life and Medical Sciences, University of Hertfordshire hosted by Global Academic Foundation, New Administrative Capital, Egypt*
- 2020-2021** *Adjunct Associate Professor of Pharmacology, School of Life and Medical Sciences,*

University of Hertfordshire hosted by Global Academic Foundation, New Administrative Capital, Egypt

- 2019-current** *Associate Professor*, Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt (currently on secondment)
- 2017-current** *Scientific Director of Pharmacology Research Team and the Cell Culture facility, Center of Drug Discovery Research and Development, Ain Shams University, Cairo, Egypt*
- 2017-2019** *Assistant Professor*, Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
- 2016 - 2017** *Fulbright Postdoctoral fellow*, Department of Medicine, School of Medicine, University of California Irvine, Irvine, California, USA
- 2016 - 2017** *Fulbright Postdoctoral fellow*, Chapman University School of Pharmacy, Irvine, California, USA
- 2013 - 2016** *Assistant Professor*, Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
- 2014 - Current** *Research Associate*, Biology Department, School of Sciences and Engineering, The American University in Cairo, New Cairo, Egypt.
- 2013** *Research Fellow*, Department of Obstetrics and gynecology, the University of Texas, Medical branch, Galveston, Texas, USA
- 2011 - 2012** *Assistant Lecturer*, Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
- 2007 - 2011** *Teaching assistant*, Department of Pharmacology and Toxicology, Faculty of pharmacy, Ain Shams University, Cairo, Egypt

PUBLICATIONS

I. RESEARCH PUBLICATIONS

- 1- **Tolba, M.F.***, Albini, A., Al-Ramadi, B. K., Chimusa, E. R., Tolaney, S. M., Santa-Maria, C. A., eds. (2022). Immunotherapy as an Evolving Approach for the Treatment of Breast Cancer. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88974-053-6
- 2- Mahmoud M., Abdollah M.A.R., Elsesy M., El Ella D.A, Zada S, **Tolba M.F***. The natural Isoflavone Biochanin-A synergizes 5-fluorouracil anticancer activity in vitro and in vivo in Ehrlich-solid phase carcinoma model. **Phytotherapy Research** (2022) in press
- 3- **Tolba M.F.***, Santa-Maria C.A., Albini A., Chimusa E.R., Al-Ramadi B.K. and Tolaney S.M. Editorial: Immunotherapy as an Evolving Approach for the Treatment of Breast Cancer. **Front. Oncol.** (2021) in press

- 4- Sedky NK, Hamdan AA, Emad S, Allam AL, Ali M, **Tolba M.F.***. Insights into the therapeutic potential of histone deacetylase inhibitor/immunotherapy combination regimens in solid tumors. **Clin Transl Oncol**. 2022 Jan 23. doi: 10.1007/s12094-022-02779-x. Online ahead of print.
- 5- Fagbamigbe AF, **Tolba ME**, et al. Implications of WHO COVID-19 interim guideline 2020.5 on comprehensive care for infected persons in Africa: Before, during and after clinical management of cases. **Sci Afr** (2021);15:e01083. doi: 10.1016/j.sciaf.2021.e01083.
- 6- Habib C.N., Mohamed M.R., Tadros M.G., **Tolba M.F.**, et al. The potential neuroprotective effect of diosmin in rotenone-induced model of Parkinson's disease in rats **Eur. J. Pharmacol.** (2021). doi: 10.1016/j.ejphar.2021.174573. Online ahead of print.
- 7- Mosi L., Sylverken A.A., Oyebola K., Badu K., Dukhi N., Goonoo N., Mante P.K., Zahouli J., Amankwaa E.F., **Tolba M.F.** et al. Correlating WHO COVID-19 interim guideline 2020.5 and testing capacity, accuracy, and logistical challenges in Africa. **Pan African Medical Journal** (2021);39:89. [doi: 10.11604/pamj.2021.39.89.27522]
- 8- Kingsley Badu K., Oyebola K., Zahouli J.Z., Fagbamigbe A.F. F., de Souza D. K., Dukhi N., Amankwaa E. F., **Tolba M.F.**, et al. SARS-CoV-2 viral shedding and transmission dynamics: Implications of WHO COVID-19 discharge guidelines. **Front. Med.** (2021) in press. doi: 10.3389/fmed.2021.648660
- 9- Baraka S.A., **Tolba M.F.**, Elsherbini D.A., El-Naga R.N. et al. Rosuvastatin and low dose carvedilol combination protects against isoprenaline- induced myocardial infarction in rats: Role of PI3K/Akt/Nrf2/HO-1 signaling. **Clin Exp Pharmacol Physiol.** (2021). doi: 10.1111/1440-1681.13535.
- 10- **Tolba MF***, Elghazaly H., Bousoik E., Elmazar M.M.A., Tolaney SM. Novel combinatorial strategies for boosting the efficacy of immune checkpoint inhibitors in advanced breast cancers. **Clin. And Transl. Oncol.** 2021;23(10):1979-1994.
- 11- Abdin S.M., **Tolba M.F.***, Zaher D.M., Omar H.O. Nuclear factor- κ B signaling inhibitors revert multidrug-resistance in breast cancer cells. **Chem Biol Interact.** 2021 Mar 25;109450. doi: 10.1016/j.cbi.2021.109450.
- 12- Ali MA, Menze ET, Tadros MG, **Tolba M.F.***. Caffeic acid phenethyl ester Counteracts Doxorubicin-induced Chemobrain in Sprague-Dawley rats: Emphasis on the Modulation of Oxidative Stress and Neuroinflammation. **Neuropharmacology** (2020);181: 108334.
- 13- **Tolba MF***. Revolutionizing the landscape of colorectal cancer treatment: The potential role of immune checkpoint inhibitors. **International Journal of Cancer** (2020), doi: 10.1002/ijc.33056.
- 14- Gerges SH, **Tolba MF** et al. The natural flavonoid galangin ameliorates dextran sulphate sodium-induced ulcerative colitis in mice: Effect on toll-like receptor 4, inflammation, and oxidative stress. **Basic & Clinical Pharmacology & Toxicology** (2020); 127: 10-20 (doi: 10.1111/bcpt.13388)
- 15- Omar HA, El-Serafi AT, Hersi F, Arafa EA, Zaher DM, Madkour M, Arab HH, **Tolba MF***. Immunomodulatory MicroRNAs in cancer: targeting immune checkpoints and the tumor microenvironment. **FEBS J** (2019); 286:3540-3557.
- 16- **Tolba MF***, Omar HA, Hersi F. et al. The impact of Catechol-O-methyl transferase knockdown on the

- cell proliferation of hormone-responsive cancers. **Mol Cell Endocrinol**, (2019); 15;488:79-88.
- 17- Omar HA, **Tolba MF***. Tackling molecular targets beyond PD-1/PD-L1: Novel approaches to boost patients' response to cancer immunotherapy. **Critical Reviews in Oncology/Hematology**, (2019);135:21-92
- 18- Serya R.A.T., El Ella D.A., Elsayed N. M.Y., Barakat K., Ahmed M., **Tolba MF** and Abouzid KA.M. Design, synthesis, biological evaluation and dynamics simulation of indazole derivatives with antiangiogenic and antiproliferative anticancer activity. **Bioorg. Chem.** (2019); 82:340-359.
- 19- Omar HA and **Tolba MF***. Caffeic acid phenethyl ester guards against benign prostate hypertrophy in rats: Role of IGF-1R/ Protein Kinase-B (Akt)/ β -catenin signaling. **IUBMB Life** (2018); 70(6):519-528
- 20- **Tolba MF** and Omar HA. Immunotherapy, an evolving approach for the management of triple negative breast cancer: converting non-responders to responders. **Critical Reviews in Oncology/Hematology**, (2018), 122:202-207
- 21- **Tolba MF**, El-Serafi AT, Omar HA. Caffeic acid phenethyl ester protects against glucocorticoid-induced osteoporosis in vivo: Impact on oxidative stress and RANKL/OPG signals. **Toxicology and Applied Pharmacology**, (2017) 324: 26-35
- 22- Omar HA, **Tolba MF**, Hung J, AlTel TH. OSU-2S/sorafenib synergistic antitumor combination against hepatocellular carcinoma: The role of PKC δ /p53. **Frontiers in Pharmacology** (2016) 30;7:463
- 23- Youssef MM, **Tolba MF**, Badawy NN, Liu AW, El-Ahwany E, Khalifa AE, Zada S. and Abdel-Naim AB. Novel combination of sorafenib and biochanin-A synergistically enhances the anti-proliferative and proapoptotic effects on hepatocellular carcinoma cells. **Sci. Rep.** (2016) 6:30717.
- 24- Attia RT, **Tolba MF**, Trivedi R, Tadros MG, Arafa HM, Abdel-Naim AB. The chemomodulatory effects of glufosfamide on docetaxel cytotoxicity in prostate cancer cells. **Peer J** (2016) ;4:e2168.
- 25- **Tolba MF** and Abdel-Rahman SZ. Pterostilbine, an active component of blueberries sensitizes colon cancer cells to 5-fluorouracil cytotoxicity. **Sci. Rep.** (2015); 5, 15239.
- 26- Elsayed N. M.Y., Abou El Ella D.A., Serya R. A.T., **Tolba M.F.**, Shalaby R and Abouzid K AM. Design, synthesis and biological evaluation of indazole-pyrimidine based derivatives as anticancer agents with antiangiogenic and antiproliferative activity. **Med Chem Comm** (2016) ;7, 881-899
- 27- **Tolba MF***, Omar HA et al. Caffeic acid phenethyl ester: A review of its antioxidant, antimicrobial activities, protective effects against ischemia reperfusion injury and drug adverse reactions. **Critical Reviews in Food Science and Nutrition**, (2016) Oct 2;56(13):2183-90.
- 28- Abdel Aziz Y.M., Said M.M., El Shihawy H. and **Tolba MF.**, Abouzid K.A.M. Discovery of potent anti-proliferative agents targeting EGFR tyrosine kinase based on pyrido[3',2':4,5]thieno[3,2-d]pyrimidin-4-amine scaffold. **Chem Pharm Bull (Tokyo)**. (2015);63(12):1015-28.

- 29- Abdou NS, Serya R.A.T, Esmat A, **Tolba MF**, Ismail N.S.M, Abouzid K.A.M. Synthesis and in vitro antiproliferative activity of novel pyrazolo[3,4-d]pyrimidine Derivatives. **Med Chem Comm** (2015); 6, 1518-1534
- 30- Cross C, **Tolba MF**, Rondelli CM, Xu M and Abdel-Rahman SZ. Oxidative stress alters miRNA and gene expression profiles in villous first trimester trophoblasts. **Biomed Res Int.** (2015);2015:257090.
- 31- Fares M, Eldehna WM, Abou-Seri SM, Abdel-Aziz HA, Aly MH, **Tolba MF**. Design, synthesis and in vitro antiproliferative activity of novel isatin-quinazoline hybrids. **Arch Pharm (Weinheim).** (2015) ;348(2):144-54.
- 32- Omar HA, **Tolba MF**, Saber-Ayad MM. Potential Targets of Energy Restriction Mimetic Agents in Cancer Cells. **Future Oncol.** (2014) 10(16):2547-50.
- 33- Habib CN, Al-Abd AM, **Tolba MF**, et al., Effect of leptin on prostate cells: emphasis on estrogen metabolism. **Life Sci.** (2014);121:10-5.
- 34- Abdelazeem AH, Gouda AM, Omar HA, **Tolba MF**. Design, Synthesis and Biological Evaluation of Novel Diphenylthiazole-Based Cyclooxygenase Inhibitors as Potential Anticancer Agents. **Bioorg Chem.** (2014) 57: 132–141.
- 35- **Tolba MF** et al., Caffeic acid phenethyl ester synergistically enhances docetaxel and paclitaxel cytotoxicity in prostate cancer cells. **IUBMB life** (2013) 65:716-29
- 36- **Tolba MF** et al., Caffeic acid phenethyl ester, a promising component of propolis with a plethora of biological activities: A review on its anti-inflammatory, neuroprotective, hepatoprotective, and cardioprotective effects. **IUBMB life** (2013) 65:699-709
- 37- Mosli HA, **Tolba MF** et al., Catechol estrogens induce proliferation and malignant transformation in prostate epithelial cells. **Toxicol Lett.** (2013) 220:247-58.
- 38- Hamdy NM, Al-Abbasi FA, Alghamdi HA, **Tolba MF**, et al., Role of neutrophils in acrylonitrile-induced gastric mucosal damage. **Toxicol. Lett.** (2011); 208:108-14.

II. SCIENTIFIC ABSTRACTS AND POSTER PRESENTATIONS:

1. Abdin SM, Zaher DM, Omar HA, **Tolba MF**. The impact of NF- κ B inhibition on the sensitivity of breast cancer cells to chemotherapy-induced apoptosis. AACR annual meeting 2020, San Diego, CA, USA, April 2020.
2. Omar HA, Zaher DM, **Tolba MF**, Al-Tel TH. Constraining multi-drug resistance in breast cancer cells by energy restriction. Experimental Pharmacology, Orlando, FL, USA, April 2019. The FASEB Journal, April 2019, 33 (1 Supplement), 675.18.
3. Gerges SH, **Tolba MF** et al. Galangin ameliorates dextran sulphate sodium-induced colitis in mice: Effect on TLR4/NF- κ B signaling. British Pharmacological Society: Pharmacology 2018, UK, December 2018.

4. **Tolba MF**, Omar HA et al. The Impact of Catechol Estrogen Metabolism on the Proliferation Rate and Docetaxel Resistance in Hormone-Responsive Cancers. AACR annual meeting 2017, Washington, DC, USA, April 2017. Cancer Research 77 (13 Supplement), 4174-4174 doi:10.1158/1538-7445.AM2017-4174
5. Omar HA, **Tolba MF**, Hung J, AlTel TH. Talking liver cancer by a novel combination between OSU-2S and sorafenib. Experimental Biology Chicago, IL, USA, April 22 – 26, 2017. The FASEB Journal, April 2017, 31 (1 Supplement), 671.1-671.1
6. Omar HA, **Tolba MF**, Hung J, AlTel TH. Mechanistic insights into the significance of sorafenib and OSU-2S combination for the treatment of hepatocellular carcinoma. The 9th Dubai International Conference for Medical Sciences, Dubai, UAE 14-16 December 2016.
7. **Tolba MF** and Omar HA. Insights into the Anti-prostate Cancer Activity of Pterostilbine. AACR: Translational control of cancer: a new frontier in cancer biology and therapy. San Fransisco, CA, USA, October 2016. Cancer Research 77 (6 Supplement), Abstract nr.B45 doi: 10.1158/1538-7445
8. Mahmoud M., El-Sesy M., **Tolba MF**, Abou El Ella D.A. A novel combination of Biochanin-A/ 5-Fluorouracil against colon cancer: Impact on Wnt/beta-catenin signaling. AACR: Translational control of cancer: a new frontier in cancer biology and therapy. San Fransisco, CA, USA, October 2016. Cancer Res 2017;77(6 Suppl):Abstract nr B47. doi: 10.1158/1538-7445
9. Omar HA, **Tolba MF**, Jui-Hsiang H., Taleb H. A. Novel approaches for targeting hepatocellular carcinoma cell survival: OSU-2S/Sorafenib combination. AACR: Targetting the Vulnerabilities of cancer. Miami, FL, USA, March 2016.
10. **Tolba MF**, Metformin alone or combined with CAPE protects against benign prostate hypertrophy in rats: Role of ER- α /IGF-1R/Phosphoinositide 3-kinase/Akt signaling. International conference on Clinical Sciences and Drug discovery. Baltimore, USA, November 2015
11. Attia R.T., **Tolba M.F.**, Tadros M.G., Arafa H.M., Abdel-Naim A.B. Glufosfamide in Prostate Cancer: A new application for an old drug. (Abstract# R6277). American Association of Pharmaceutical Scientists Annual meeting. Orlando, FL, USA, October 2015
12. **Tolba M** and Abdel-Rahman S. Pterostilbine, an Active Component of Blueberries, Sensitizes Colon Cancer Cells to Chemotherapy: Potential Role of Estrogen Receptor Beta. Society of Toxicology (SOT) 54th annual meeting: San Diego, CA, USA, March 2015.
13. Cross C, **Tolba M**, et al., Comparison of NAC and CAPE in Modulating H₂O₂-Induced Alterations in Cytotrophoblast Cell Survival, Apoptosis and miRNA Expression. Society of Toxicology (SOT) 54th annual meeting: San Diego, CA, USA, March 2015.
14. Aly MH, **Tolba MF** et al., Hepatoprotective activity of Diets bicolor leaf extract: Role of Vitexin. Society of Toxicology (SOT) 54th annual meeting: San Diego, CA, USA, March 2015.

15. Farrag NN, Youssef MM, **Tolba MF**, et al., Solamargine; a potential promising anti-tumor agent? Exploring and Comparing its potency with nitroso-solamargine and solanine. AACR: New Horizons in Cancer Research Conference, Shanghai, China, October **2014**.
16. Mosli H, Habib C, Al-Abd A, **Tolba M** et al., Effect of leptin on prostate cells: emphasis on estrogen metabolism. 12th International Congress on Obesity, Kuala Lumpur, Malaysia, March 2014. Obesity Reviews. (2014)15(supplement 2): 53-97.
17. Cross C, **Tolba M** et al., Protective Effect of CAPE against ROS-Induced Proapoptotic miRNA Expression and Apoptosis Pathway Activation. Society of Toxicology (SOT) 53rd annual meeting: Phoenix, Arizona, USA, March **2014**.
18. **Tolba MF**, et al., Estrogen Receptor Alpha Modulation and Differential Cytotoxicity of Caffeic Acid Phenethyl Ester in Prostate Cancer Cells. Society of Toxicology (SOT) 53rd annual meeting: Phoenix, Arizona, USA, March **2014**
19. Cross C, **Tolba M**, et al., Effect of Increased Reactive Oxygen Species on MicroRNA Expression in First Trimester Placental Trophoblasts. Society of Toxicology (SOT) 52nd annual meeting: San Antonio, Texas, USA, March **2013**.
20. **Tolba M** et al., Caffeic Acid Phenethyl Ester Augments Docetaxel-Cytotoxicity in PC-3 Cells by Inducing Apoptosis Through Modulation of Estrogen Receptors. Société Internationale d'Urologie 32nd Congress: Fukuoka, Japan, October **2012**. Urology (supplement 3A)(2012):80:S274.

INVITED SPEAKER

- 1- **ESMO Breast Cancer Congress 2022**. Educational lecture entitled "Insights into the mechanisms of Toxicity associated with immune checkpoint blockade", May 2022
- 2- Invited guest lecturer at **She-Bioscience online school** to deliver lectures on "Research skills" March 2022
- 3- Invited speaker at the workshop of "Egyptian women between science and the society" organized by the **Egyptian Academy of Science and Technology (ASRT)** and the Organization for women in science for the developing world (OWSD). The talk title was "Science and the Collective Leadership Model", January 2022
- 4- **United Nations multi-stakeholders Science Technology and Innovation (STI) Forum 2021**: "Deploying the Free Social Media Platforms for Open Science Practice: Opportunities and Challenges". [Link: https://sdgs.un.org/documents/sti5may21session5stakeholdertolbagloballyoungacademy-33111](https://sdgs.un.org/documents/sti5may21session5stakeholdertolbagloballyoungacademy-33111)
- 5- **Youth Science Forum 2020**: "Boosting the Antitumor Efficacy of Cancer Immunotherapy Through Engaging Immune Targets Beyond PD-1/PD-L1 Checkpoints". Cairo, Egypt, March **2020**.
- 6- **World Forum for Women in Science 2020**: "Engaging nonclassical immune targets beyond PD-1/PD-L1 immune checkpoints for optimizing tumor response to cancer immunotherapy". Rio de Janeiro, Brazil, February **2020**.

- 7- **She Talks Science: Inspire the world 2019 summit:** “Cancer and the Castle Guardians: A message of hope”
- 8- **Connecting Minds Africa conference 2019:** Cancer immunotherapy, a New light of hope for the treatment of triple negative breast cancer. Nairobi, Kenya, September 2019 (Fully sponsored invitation form AAS and the Royal Society).
- 9- **Scientific celebration day on the occasion of collaboration between MASRI and Zewail Genomic Centre:** Novel investigational opportunities for optimizing immunotherapy treatment protocols and patient selection criteria. Faculty of Medicine, Ain Shams University, Cairo, Egypt, August 2019.
- 10- **World Forum for Women in Science 2019:** New hope for patients with triple negative breast cancer: Strategies for converting immunotherapy non-responders to responders. Cairo, Egypt, March 2019.
- 11- **TEDx Cairo Women 2017:** Cancer and the Castle Guardians. Cairo, Egypt, November 2017.
<https://www.youtube.com/watch?v=lvr-NYFIUbM>
- 12- **Fulbright Alumni conference:** The Impact of Catechol Estrogen Metabolism on cell proliferation and Docetaxel (DOC) Resistance in Hormone-Responsive Cancers. Cairo, Egypt, November 2017.
- 13- **She Can 2018 Event:** Women in Science panel: Empowering young women for science career path. Cairo, Egypt, March 2018.
- 14- **3rd FUE International Conference of Pharmaceutical Sciences:** Effect of Increased Reactive Oxygen Species on microRNA Expression Profile in First Trimester Placental Trophoblasts. Cairo, Egypt, March 2015.
- 15- **54th Egyptian society of Pharmacology and Experimental Therapeutics (ESPET) annual meeting:** Epigenetic effects of reactive oxygen species (ROS) in first trimester trophoblasts: impact on miRNA profile. Cairo, Egypt, December 2014.
- 16- **17th Scientific Congress of the Association of colleges of Pharmacy in the Arab world:** Epigenetic effects of reactive oxygen species (ROS) in first trimester trophoblasts: impact on miRNA profile. Cairo, Egypt, October 2014.

Research Funding & GRANTS

- **2022:** The winner of 1500,000 EGP RESPECT grant from the Academy of Scientific Research and Technology, May 2022. PI of the Project entitled “ Investigation of the Therapeutic Outcomes of Novel Combinatorial Immunotherapy Strategies against Triple Negative Breast Cancer ”.
- **2022:** The winner of 1500,000 EGP RESPECT grant from the Academy of Scientific Research and Technology, May 2022. Research consultant of the Project entitled “Pharmacogenomics-based prediction of Clinical outcomes to breast cancer therapy ”.
- **2020:** The winner of STDF grant (ID:43010), September 2020. Project title “Turning the immune system on breast cancer: the immunomodulatory effect of a natural seaweed in combination with anti-programmed cell death (PD)-1 antibody”.
- **2020:** The winner of Erasmus plus joint grant as a member of Ain Shams University team. Project title “Immune modulation Diploma”.
- **2019:** The winner of 5th edition Science by Women Fellowship from Mujeres por Africa Foundation,

November 2019. Project title: “Novel combinations of AMPK activators to enhance Tumor Response to Immune Checkpoint Inhibitors in Triple Negative Breast Cancer”

- **2018:** The winner of **300,000 AED** research grant as a **Co-PI** from **Al-Jalila Foundation** (#AJF2018050). Project Title: “Metabolic Reprogramming as a Novel Approach to Sensitize Cancer Cells to Immunotherapy”, October 2018
- **2018:** The winner of **80,000 AED** research grant as a **Co-PI** from the **University of Sharjah**. Project Title: “Counteracting the multidrug resistance in breast cancer cells via interfering nuclear factor (NF)-kB signaling”, September 2018
- **2016:** The winner of **10,000 €** award from the **L’Oreal-UNESCO for Women in Science** Organization for the regional Levant and Egypt program.
- **2015:** The winner of **50,000 USD** research grant as a **PI** from **Fulbright Organization**. Project title: “Novel approaches for the management of prostate cancer”, February 2015
- **2012:** The winner of **21,000 USD** research grant as a **Ph.D. visiting scholar** from the **Ministry of Higher education** as a **joint-supervision scholarship at the University of Texas Medical Branch**.

HONORS & AWARDS

- **2021: FDA-AACR Oncology Educational Fellowship**
- **2021: Africa Science Leadership program (ASLP)fellowship**
- **2020: Global Young Academy (GYA) elected member**
- **2020: Ranked in the top 30 winners in 2020 Sternfels Prize.** Proposal title: “Trimetazidine Repurposing as a Protective Agent Against Doxorubicin-Induced Chemobrain”
- International publications award from **Ain Shams University (2016, 2017, 2018, 2019)**
- **2019: Ranked in the top 30 winners in 2019 Sternfels Prize.** Project title: “Adjuvant Metformin for Boosting Tumor Response to anti-PD-L1 Immune Checkpoint Inhibitors in Triple Negative Breast Cancer”
- **2019: Nominated as an affiliate member at the African Academy of Sciences (AAS)**
- **2016: The winner of the L’Oreal-UNESCO for Women in Science Levant and Egypt Fellowship**
- **2015: The Winner of Fulbright Scholar award**
- **2015: The best Ph.D. publications award, Ain Shams University Science feast, Ain Shams University, Cairo, Egypt.**
- **2012: Scholarship under the Channel System and Joint Supervision Scheme at the University of Texas, Medical branch, Galveston, Texas, USA. The funding organization was the Egyptian Ministry of Higher Education.**

Master & Ph.D Thesis Supervision

Principal Advisor

- M.Sc.** Candidate: Somaya Mohamed Mahmoud Abdel-Jalil
Title: "Pharmacological studies on the therapeutic outcomes of trimetazidine-chemotherapy and immunotherapy combinations in Ehrlich solid phase carcinoma mouse tumor model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running.
- M.Sc.** Candidate: Azza Tarek Eldmnawy
Title: "Pharmacological studies on the potential neuroprotective effects of trimetazidine against chemotherapy-induced cognitive impairment in experimental rat model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running.
- M.Sc.** Candidate: Heba Taher Sabek
Title: "Pharmacological studies on the therapeutic outcomes of Liraglutide-immunotherapy combination in breast cancer mouse model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running
- M.Sc.** Candidate: Dalia Hussein
Title: "Pharmacological studies on the therapeutic outcomes of trimetazidine-immunotherapy combination in breast cancer mouse model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running
- M.Sc.** Candidate: Hana Mohamed Nader
Title: "Pharmacological studies on the therapeutic outcomes of telmisartan-doxorubicin combination in breast cancer mouse model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running
- M.Sc.** Candidate: Mohamed Mahmoud Abdel-Rahman
Title: "Pharmacological and molecular modeling Studies on the Chemomodulatory Effect of Biochanin-A in Colon Cancer Cells". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: granted 2021.
- M.Sc.** Candidate: Marwa Adel Abdemoneim
Title: "Pharmacological studies on the potential Neuroprotective effect of Caffeic Acid Phenethyl Ester against Doxorubicin-Induced Cognitive Impairment in Experimental Rat

Model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: granted 2021.

Co-Advisor

- M.Sc.** Candidate: Noha Nagdy Farrag
Title: "*Promising antitumor therapeutics of herbal origin: exploring cytotoxic activity of glycol-alkaloids and unraveling underlying mechanisms*". Biology Department, School of Sciences and Engineering, The American University in Cairo, New Cairo, Egypt. Status: Granted 2015
- M.Sc.** Candidate: Al-Siddig Kamal Al-Siddig
Title: "*Pharmacological Studies on the Potential Anti-inflammatory Effects of a Natural Product*". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted 2015
- M.Sc.** Candidate: Mohamed Hussein Aly
Title: "In vitro studies on the potential protective effects of *Dietes Bicolor* plant against carbon tetrachloride-induced hepatotoxicity". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted 2016
- M.Sc.** Candidate: Zeina Hussein Abdel-Fattah
Title: "A Pharmacological study of the potential protective effect of angiotensin II receptor blocker(s) on experimentally induced benign prostatic hyperplasia in rats". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted 2017
- M.Sc.** Candidate: Samar Hosny Gerges
Title: "Pharmacological studies on the potential curative effects of galangin against DSS-induced colitis in vivo". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted 2018
- M.Sc.** Candidate: Yasmine Mohamed Kheiry
Title: "Therapeutic outcome of adding vitamin D supplement to the treatment of type 2 Diabetes mellitus". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted
- M.Sc.** Candidate: Marwa Ahmed Abdel-Salam
Title: "Effect of *Viscum Album* extract on angiogenesis mediators and cytokines in

Egyptian patients with advanced hepatocellular carcinoma". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted

M.Sc. Candidate: Sarah Ahmed Hussein
 Title: " Potential neuroprotective effect of biochanin-A against doxorubicin –induced cognitive impairment in experimental rat model". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Running

Ph.D. Candidate: Maha Magdy Hassanin
 Title:" Pharmacological studies on the potential protective activity of wogonin against experimentally-induced osteoporosis in rats". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted 2020

Ph.D. Candidate: Kristine Nathan Habib
 Title: "Pharmacological study on the potential neuroprotective effect of diosmin in rotenone-induced model of Parkinson’s disease in rats". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: granted 2022

Ph.D. Candidate: Sara Ahmed Baraka
 Title: "Pharmacological study of the therapeutic outcomes of rosuvastatin and beta blocker combination in isoprenaline-induced myocardial infarction in rats". Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Status: Granted

TEACHING EXPERIENCE*

| | Course name | Program |
|---|-----------------------|--|
| 1 | Physiology | B.Sc. Pharmaceutical Sciences program (Undergraduate level) |
| 2 | Pharmacology I | |
| 3 | Pharmacology II | |
| 4 | Physiology | |
| 5 | Clinical Pharmacology | |
| 6 | Toxicology | |
| 7 | Clinical Toxicology | |

| | | |
|----|--|--|
| 8 | Drug and poison information | B.Sc. Drug Design credit hours Program (Undergraduate level) |
| 9 | Medical Terminology | |
| 10 | Pharmacology I | |
| 11 | Pharmacology II | |
| 12 | Toxicology | |
| 13 | Drug interactions and Drug information | M.Sc. of Pharmacology and Toxicology Program (Postgraduate level) |
| 14 | Advanced Pharmacology | |
| 15 | Molecular Pharmacology | |
| 16 | Advanced Toxicology | IFP students (pharmacy and physiotherapy), University of Hertfordshire |
| 17 | Biological Sciences I/II | |
| 18 | Human Physiology and Pharmacology | Level 4 M.Pharm and Pharmaceutical Sciences, University of Hertfordshire |
| 19 | Pharmacology | Level 5 Pharmaceutical Sciences, University of Hertfordshire |

*Adopting problem-based learning (PBL) as well as team-based-learning (TBL) approaches. Teaching-related tasks include curriculum development, students' assessment through assignments, periodic, practical, oral and final theoretical exams. Contribution to exams grading as well as preparation of the course file to be submitted to the quality assurance unit. Mentoring of students through their graduation projects for students enrolled in the Drug Design Program (DDP). Participation in exams control committees which oversee and regulate the final exams to ensure fair and accurate exams grading.

OTHER POSTGRADUATE CERTIFICATES AND COURSES

- ▶ *Successfully completed "Science Leadership" workshop for Global young academy new members, June 2020.*
- ▶ *Successfully completed "Science Diplomacy" workshop at the 3rd international conference for Women in Science Without Borders (WISWB), Cairo, Egypt, March 2019.*
- ▶ *Successfully completed "Exosomes Research Techniques" workshop at System Biosciences Inc., Mountain View, San Fransisco, California, USA, October 2017.*
- ▶ *Successfully completed the following University of Texas Medical Branch courses:*
 - Laboratory Safety Orientation: Hazardous waste disposal
 - The Laboratory Animal Care and Use.
 - General fire safety
 - The Occupational Health and Safety.

- Bloodborne Pathogens Training.
- Good laboratory practice

- ▶ **Successfully completed the following courses at Ain Shams University**
 - Research Team management
 - Communication skills and effective presentation skills.
 - The use of technology in teaching.
 - Research and teaching skills and ethics.
 - Different exams systems and effective ways of students evaluation.
 - Problem solving and effective decision making

- ▶ **Successfully completed a course on “Leading in the times of change” at the DAAD, Giza, Egypt.**

AREAS OF PROFESSIONAL INTEREST

- Investigation of novel approaches for overcoming tumor resistance to chemotherapy and immunotherapy
- Developing strategies for counteracting chemotherapy-induced adverse effects
- Pharmacological investigations of honeybee propolis active constituents
- Epigenetic regulation of gene expression via miRNAs

PROFESSIONAL MEMBERSHIPS

- | | |
|------|---|
| 2021 | European Society of Medical Oncology (ESMO) membership |
| 2020 | American Society of Clinical Oncology (ASCO) |
| 2019 | Women in Science Without Borders network (WISWB) |
| 2019 | African Academy of Sciences-Affiliate member (AAS) |
| 2016 | American Association for Cancer Research (AACR) |
| 2013 | Society of Toxicology (SOT) |
| 2014 | The Egyptian Society of Pharmacology and Experimental Therapeutics. |
| 2006 | The General Syndicate of Pharmacists in Egypt. |

Conference Organizing Committees/Session Moderation

- | | |
|------|---|
| 2021 | Session Chair, World Health Summit (WHS) 2021 “New Voices in Global Health: COVID-19 Vaccination Rollout: Opportunities and Challenges” |
| 2021 | Moderator of the Science Policy Advice panel entitled “Lessons Learned from the COVID-19 Pandemic”, Annual international conference of young scientists, June 2021 Link: https://conference.globalyoungacademy.net/science-advice/ |
| 2020 | Member in the scientific committee, Youth Science Forum scheduled to be held in Cairo, Egypt, March 2020 |
| 2020 | International Conference on Cancer & Oncotherapy scheduled to be held in Paris, France during September 2020. |
| 2014 | The 17th Scientific Congress of the Association of colleges of Pharmacy in the Arab world, Cairo, Egypt, October 2014 |

Workshop organization

- 2022 Lead, Design, Organize and deliver sessions on the second workshop on “**Cell culture basics and Cytotoxicity Assays**” at the Centre of Drug Discovery Research and Development at Ain Shams University, February 2022
- 2021 Lead, Design and Organize the first workshop on “**Cell culture basics and Cytotoxicity Assays**” at the Centre of Drug Discovery Research and Development at Ain Shams University, October 2021

PROFESSIONAL SERVICE RECORD

- ▶ Member of Ain Shams University’s **International Ranking Committee** (May 2021)
- ▶ Member of **L’Oreal-UNESCO for women in science Sub-Saharan Africa** peer review panel (2020/2021)
- ▶ Panel member at **FLAIR, Future leaders African Independent Research fellowships** -Invited by **the Royal Society**, (2020/2021)
- ▶ **Co-lead of the Global Health working group** at the Global Young Academy (2020-current)
- ▶ **Member of the non-communicable diseases working group at the African Academy of Sciences** (2019-current)
- ▶ Member of the **Fulbright selection committees** in Pharmacology and Medical sciences specialties:
 - Panel member for Fulbright student program FY2022
 - Panel member for Fulbright scholar program FY2021
 - Panel member for Fulbright scholar program FY2020
 - Panel member for Fulbright student program FY2020
 - Panel member for Fulbright scholar program FY2019
 - Panel member for Fulbright student program FY2019
 - Panel member for Fulbright junior faculty development program (JFDP)FY2019
 - Panel member for Fulbright scholar program FY2018
 - Panel member for Fulbright student program FY2018
- ▶ Member of committees at the Faculty of Pharmacy, Ain Shams University
 - Department council (Academic years: 2014/2015, 2018/2019, 2019/2020, 2020/2021)
 - College council (Academic year: 2017/2018)
 - Occupational safety and health committee (Academic year: 2019/2020 & 2020/2021)
 - Postgraduates’ affairs and research committee (Academic years: 2014/2015, 2018/2019, 2019/2020)

- Credibility and Ethics portfolio in Quality assurance committee (2013-present)
 - Head of Leadership and governance sector in the Quality assurance committee (2017/2019)
 - Students affairs committee (Academic years: 2017/2018)
 - Cultural Affairs Committee (Academic years: 2015/2016, 2019/2020)
- ▶ Lead **Associate Editor** for the topic collection entitled “Immunotherapy as an Evolving Approach for the Treatment of Breast Cancer” *Frontiers in Oncology*, Lausanne, Switzerland
- ▶ **Associate Editor** for the topic collection entitled “Emerging Talents in Pharmacology of Anti-Cancer Drugs 2022” *Frontiers in Pharmacology*, Lausanne, Switzerland
- ▶ Editorial board member for *Toxicology and Applied Pharmacology Insights*, Overland Park, KS, USA.
- ▶ Invited **Peer Reviewer** for:
- *Scientific reports (nature publishing group)*
 - *PLoS One*
 - *Cell communication and signaling*
 - *Journal of Oncotargets and Therapy*
 - *Carcinogenesis*
 - *Critical Reviews in Food Science and Nutrition*,
 - *Journal of Ocular Pharmacology and Therapeutics*
 - *Clinical and Experimental Pharmacology and Physiology (CEPP)*
 - *Environmental Science and pollution research (ESPR)*

Community service

- ▶ Founder of “**Cancer and the Castle Guardians**” an online cancer awareness platform on both Instagram and Facebook. It aims for providing simple cancer awareness and health care advice backed by research reports and written in both English and Arabic languages. (launched on April 2019)
- ▶ Founder of “**Science for people Africa**” an online open science platform on both Instagram and Facebook. It aims for transferring the expertise of Africa’s best scientists to the people of Africa and the world. This platform is a collaboration with the African Academy of Sciences (AAS). (Launched on April 2022)
- ▶ Organizing fund-raising campaigns to support the expenses of chemotherapy for cancer patients at the National Cancer institute
- ▶ Participation in the preparatory sessions for the annual summer Medical Caravan of Ain Shams University, Faculty of Pharmacy
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