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PERSONAL DATA

Current Position	▪ Associate Professor, Department of Pharmacognosy and Natural Products, Faculty of Pharmacy, Menoufia University, Egypt.
Postal Address	▪ Department of Pharmacognosy and Natural Products, Faculty of Pharmacy, Menoufia University, Gamal Abd El Nasr st., Shibin Elkom 32511, Menoufia, Egypt.
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EDUCATION AND SCIENTIFIC DEGREES

PhD	University of Potsdam , and Max Planck Institute of Molecular Plant Physiology (MPIMP-Golm), Germany.	2014-2018
MSc	Cairo University , Faculty of Pharmacy, Egypt. Field: Pharmacognosy and Natural Products Chemistry	2009-2012
BSc	Cairo University , Faculty of Pharmacy, Egypt. Excellent with Honor Degree in Pharmaceutical Sciences	2001-2006

PROFESSIONAL WORK EXPERIENCE AND CHRONOLOGY OF EMPLOYMENT

- **Research Scientist**, the Bioactives Lab, Division of Biological and Environmental Sciences and Engineering (BESE), King Abdullah University of Science and Technology (KAUST), Thuwal, Kingdom of Saudi Arabia. 2023- current
- **Associate Professor**, Department of Pharmacognosy and Natural Products, Faculty of Pharmacy, Menoufia University, Egypt. 2023- current
- **Post-doctoral Fellow**, Max Planck Institute of Molecular Plant Physiology (MPIMP-Golm), Germany. 2021- 2022
- **Lecturer and Researcher**, Department of Pharmacognosy and Natural Products, Faculty of Pharmacy, Menoufia University, Egypt. 2019- current
- **Director**, Quality Assurance Unit, Faculty of Pharmacy, Menoufia University, Egypt. 2019 - 2023
- **Lecturer and Researcher**, Pharmacognosy Department, Faculty of Pharmacy, Cairo University, Egypt. 2018-2019
- **PhD student**, Experimental Systems Biology Group, Max Planck Institute of Molecular Plant Physiology (MPIMP-Golm), Germany. 2014- 2018
- **Assistant lecturer**, Pharmacognosy Department, Faculty of Pharmacy, Cairo University, Egypt. 2012- 2013
- **Teaching Assistant**, Pharmacognosy Department, Faculty of Pharmacy, Cairo University, Egypt. 2008- 2012

RESEARCH EXPERIENCE

- Experimental systems biology approaches (metabolomics and lipidomics) with a very good understanding of plant metabolism.
- Natural products drug discovery and Isolation of bioactive plant constituents.
- Phytochemical and pharmacognostical studies of medicinal plants.
- Quality control of natural drugs.

RESEARCH ACCOMPLISHED AND JOURNAL PUBLICATIONS

JOURNAL PUBLICATIONS

- Passent M. Abdel-Baki, Moshera M. El-Sherei, Amal E. Khaleel, Essam Abdel-Sattar, **Mohamed A. Salem** and Mona M. Okba. Correlation between secondary metabolites of *Iris confusa* Sealy and *Iris pseudacorus* L. and their newly explored antiprotozoal potentials. **BMC Complementary Medicine and Therapies**, 23, 465, 2023.
- **Mohamed A. Salem**, Osama G. Mohamed, Esraa M. Mosalam, Aya Ibrahim Elberri, Hend Mohamed Abdel-Bar, Mariam Hassan, Ahmed A. Al-Karmalawy, Ashootosh Tripathi, Shahira M. Ezzat and Hend E. Abo Mansour. Investigation of the phytochemical composition, antioxidant, antibacterial, anti-osteoarthritis, and wound healing activities of selected vegetable waste. **Scientific Reports**, 13: 13034, 2023.
- Hend E. Abo Mansour, Aya Ibrahim Elberri, Mai El-Sayed Ghoneim, Waad A. Samman, Aisha A. Alhaddad, Mahmoud S. Abdallah, Eman I. El-Berri, **Mohamed A. Salem** and Esraa M. Mosalam. The Potential Neuroprotective Effect of Thymoquinone on Scopolamine-Induced In Vivo Alzheimer's Disease-like Condition: Mechanistic Insights. **Molecules**, 28(18), 6566, 2023.
- Ahmed Zayed, Mohamed A. Farag, Alexander Mehring, **Mohamed A. Salem**, Rana M. Ibrahim, Saleh Alseekh, Alisdair R. Fernie, Roland Ulber. Methyl jasmonate elicitation effect on the metabolic profile of cambial meristematic cells culture derived from sweet basil (*Ocimum basilicum*) in relation to antioxidant activity: Untargeted metabolomics study in a time-based approach. **Phytochemistry**, 213, 113777, 2023.
- Fayezeah Aarabi, **Mohamed A. Salem**, Stephanie Arrivault, Mustafa Bulut, Mark Aurel Schöttler, Patrick Giavalisco, Alisdair R. Fernie and Rainer Hoefgen. The regulation of sulfolipids under Sulfur starvation, **Plant Molecular Biology**, 2023.
- Inas Y. Younis, Engy Mohsen, Rana M. Ibrahim, Alisdair R. Fernie, Saleh Alseekh and **Mohamed A. Salem**. Non-targeted metabolomics and chemometrics for saffron (*Crocus sativus* L.) authentication and adulteration detection in relation to its anticholinesterase activity. **Food Chemistry Advances**, 100217, 2023.
- **Mohamed A. Salem**, Jian You Wang and Salim Al-Babili. Mini Review: Metabolomics of plant root exudates: From sample preparation to data analysis. **Frontiers in Plant Science**, 13:1062982, 2022.
- **Mohamed A. Salem**, Hend E. Abo Mansour, Esraa M. Mosalam, Riham A. El-Shiekh, Shahira M. Ezzat, and Ahmed Zayed. Valorization of by-products derived from onions and potato: Extraction optimization, metabolic profile, outstanding bioactivities, and industrial applications. **Waste and Biomass Valorization**, 2023.
- **Mohamed A. Salem**, Maha M Salama, Shahira M. Ezzat and Yomna A. Hashem. Comparative Metabolite Profiling of Four Polyphenol Rich Morus Leaves extracts in Relation to their Antibiofilm Activity against *Enterococcus faecalis*. **Scientific Reports**, 12:20168, 2022.
- Nihal Elsayyad, Iman Gomaa, **Mohamed A. Salem**, Reham Amer, Hanan M. El-Laithy. Efficient Lung-Targeted Delivery of Risedronate Sodium/Vitamin D3 Conjugated PAMAM-G5 Dendrimers for Managing Osteoporosis: Pharmacodynamics, Molecular Pathways and Metabolomics Considerations. **Life Sciences**, 309, 121001, 2022.
- **Mohamed A. Salem**, Riham A. El-Shiekh, Nora M. Aborehab, Ahmed A. Al-Karmalawy, Shahira M. Ezzat, Saleh Alseekh and Alisdair R. Fernie. Metabolomics driven analysis of *Nigella sativa* seeds identifies the impact of roasting on the chemical composition and immunomodulatory activity. **Food Chemistry**, 398, 133906, 2023.
- **Mohamed A. Salem**, Shahira M. Ezzat, Dalia I. Hemdan, Ahmed Zayed. Reorganization and Updating the Pharmacy Education in Egypt: A Review Study on the Transition from B Pharm to Pharm D Degree. **J Adv Med Pharm Res.**, 3, 53-59, 2022.

- Okba, M., Abdel-Baki, P., Abu-Elghait, M., Shehabeldine, A., El-Sherei, M., Khaleel, A., and **Mohamed A. Salem**. UPLC-ESI-MS/MS Profiling, Antihaemolysin and Anti-Biofilm Activities of the Underground Parts of Common Iris Specie. ***Biology and Life Sciences Forum***, 6(1), 2022.
- Beata Siemiatkowska, Matteo Chiara, Bhaskara Govinal Badiger, Matteo Riboni, Francesca D'Avila, Daniele Braga, **Mohamed A. Salem**, Damiano Martignago, Sara Colanero, Massimo Galbiati, Patrick Giavalisco, Chiara Tonelli, Thomas E. Juenger and Lucio Conti. GIGANTEA Is a negative regulator of abscisic acid transcriptional responses and sensitivity in Arabidopsis. ***Plant and Cell Physiology***, 63(9), 2022.
- Alexander Mehring, Ahmed Zayed, **Mohamed A. Salem**, Saleh Alseekh, Alisdair R. Fernie, Roland Ulber. Time-dependent behaviour of methyl jasmonate elicited cell suspension cultures of Ocimum species via untargeted mass spectrometry-based metabolomics. ***Industrial Crops & Products***, 187, 115414, 2022.
- Dina M. El-Kersh, Nada M. Mostafa, Shaimaa Fayez, Tarfah Al-Warhi, Mohammed A. S. Abourehab, Wagdy M. Eldehna and **Mohamed A. Salem**. GC-MS metabolites profiling of anethole-rich oils by different extraction techniques: Antioxidant, cytotoxicity and in-silico enzymes inhibitory insights. ***Journal of Enzyme Inhibition and Medicinal Chemistry***, 37:1, 2022.
- Sharifi-Rad, Javad, Herrera-Bravo, Jesús, Semwal, Prabhakar,**Mohamed A. Salem**,.....Cho, William C. Artemisia spp.: An Update on Its Chemical Composition, Pharmacological and Toxicological Profiles. ***Oxidative Medicine and Cellular Longevity***, 2022: p. 5628601, 2022.
- Fayeze Aarabi, Apidet Rakpenthai, Rouhollah Barahimipour, Michal Gorka, Saleh Alseekh, Youjun Zhang, **Mohamed A. Salem**, .., Alisdair Fernie, and Rainer Hoefgen. Sulfur deficiency-induced genes affect seed protein accumulation and composition under sulfate deprivation. ***Plant Physiology***, 4;187(4), 2021.
- Shahira M. Ezzat, Heba M.I. Abdallah, Noha N. Yassen, ..., **Mohamed A. Salem**. Phenolics from *Physalis peruviana* fruits ameliorate streptozotocin-induced diabetes and diabetic nephropathy in rats via induction of autophagy and apoptosis regression. ***Biomedicine & Pharmacotherapy***, 142, 111948, 2021.
- **Mohamed A. Salem**, Ahmed Zayed, Saleh Alseekh, Alisdair R. Fernie and Patrick Giavalisco. The integration of MS-based metabolomics and multivariate data analysis allows for improved quality assessment of *Zingiber officinale* Roscoe, ***Phytochemistry***, Volume 190, 112843, 2021.
- Zimmermann, S. E., Benstein, R. M., Flores-Tornero, M., Blau, S., Anoman, A. D., Rosa-Téllez, S., Gerlich, S. C., **Mohamed A. Salem**, . Fernie, A. R., Giavalisco, P., Ros, R., Krueger, S., 2021. The phosphorylated pathway of serine biosynthesis links plant growth with nitrogen metabolism. ***Plant Physiology***, 186(3), 1487–1506, 2021.
- **Mohamed A. Salem**, Shahira M. Ezzat, Patrick Giavalisco, Essam Abdel Sattar and Nebal El Tanbouly. Application of a comprehensive metabolomics approach for the selection of flaxseed varieties with the highest nutritional and medicinal attributes. ***Journal of Food and Drug Analysis***, 29(2), 2021.
- **Mohamed A. Salem**, Riham A. El-Shiekh, Rasha A. Hashem and Mariam Hassan., In vivo Antibacterial Activity of Star Anise (*Illicium verum* Hook.) Extract Using Murine MRSA Skin Infection Model in Relation to Its Metabolite Profile. ***Infection and Drug Resistance***, 14:33-48, 2021.
- El-Shiekh, Riham A., **Mohamed A. Salem**, Samar M. Mouneir, Azza Hassan, and Essam Abdel-Sattar. A mechanistic study of *Solenostemma argel* as anti-rheumatic agent in relation to its metabolite profile using UPLC/HRMS. ***Journal of Ethnopharmacology***, 265, 113341, 2021.

- **Mohamed A. Salem**. A Response to the Recommendations for Using Dexamethasone for the Treatment of COVID-19: The Dark Side of Dexamethasone. *Journal of Pharmacy Practice*, 2020:0897190020979608.
- **Mohamed A. Salem** and Shahira M. Ezzat. The use of aromatic plants and their therapeutic potential as antiviral agents: A hope for finding anti-COVID 19 essential oils. *Journal of Essential Oil Research*, 1-9, 2021.
- **Mohamed A. Salem**, Ahmed Zayed, Magy E. Beshay, Mirna M. Abdel Mesih, Reem F. Ben Khayal, Fady A. George, Shahira M. Ezzat. *Hibiscus sabdariffa* L.: phytoconstituents, nutritive, and pharmacological applications. *Advances in Traditional Medicine*, 2021.
- **Mohamed A. Salem**, Rasha Ali Radwan, Eman Sherien Mostafa, Saleh Alseekh, Alisdair R. Fernie and Shahira M. Ezzat. Using an UPLC/MS-based untargeted metabolomics approach for assessing the antioxidant capacity and anti-aging potential of selected herbs. *RSC Advances*, 10 (52):31511-31524, 2020.
- **Mohamed A. Salem**, Takuya Yoshida, Leonardo Perez de Souza, Saleh Alseekh, Krzysztof Bajdzienko, Alisdair R. Fernie and Patrick Giavalisco. An improved extraction method enables the comprehensive analysis of lipids, proteins, metabolites and phytohormones from a single sample of leaf tissue under water-deficit stress. *Plant Journal*, 103, 2020.
- **Mohamed A. Salem**, Haidy E. Michel, Marwa I. Ezzat, Mona M. Okba, Ahmed M. EL-Desoky, Shanaz O. Mohamed and Shahira M. Ezzat. Optimization of an Extraction Solvent for Angiotensin-Converting Enzyme Inhibitors from *Hibiscus sabdariffa* L. Based on Its UPLC-MS/MS Metabolic Profiling. *Molecules*, 25, 2307, 2020.
- Mona M. Okba, Passent M. Abdel Baki, Amal E. Khaleel, Moshera M. El-Sherei, **Mohamed A. Salem**. Discrimination of common Iris species from Egypt based on their genetic and metabolic profiling, *Phytochemical Analysis*, 32(2), 2020.

PEER REVIEWING FOR SCIENTIFIC JOURNALS

A peer reviewer for the following journals; Scientific Reports, Natural Product Research, BMC Complementary Medicine and Therapies, Pharmaceutical Biology, Journal of Advanced Research (JAR), Planta Medica, Molecules, PeerJ, Bulletin of Faculty of Pharmacy Cairo University (bfopcu) and International Journal of Food Properties.

FELLOWSHIPS

Post-doctoral Fellowship	2021
Egyptian Ministry of Higher Education- Mission Call 2019-2020 at Max Planck Institute of Molecular Plant Physiology, Germany.	
DAAD doctoral fellowship	2013
Full PhD Scholarship, German Egyptian Research Long Term Scholarship (GERLS) -	
Program between German Academic Exchange Service (DAAD) and Egyptian	2018
Ministry of Higher Education for the Doctoral Degree at Max Planck Institute of Molecular Plant Physiology, Germany.	

HONOURS AND AWARDS

▪ Egypt State Encouragement Award , The Academy of Scientific Research & Technology (ASRT), Egypt.	2023
▪ Menoufia Univeristy Award for distinguished staff “Al Tashgeeyea” , Egypt.	2021
▪ Menoufia Univeristy Award for distinguished staff “Mostafa Bahgat Abdel Motaal Award” , Egypt.	2020
▪ Scientific Publications Award , Menoufia University, Egypt.	2019