

PERSONAL INFORMATION

Mina Mehanny

E-mail Address: dr_minamehany@pharma.asu.edu.eg

Gender: Male

Nationality: Egyptian

WORK EXPERIENCE

(Sep 2022- Present)

Lecturer

Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt

(Jun 2023- Sep 2023)

Visiting Postdoctoral Researcher

University Medical Center Groningen (UMCG), Groningen University, Groningen, The Netherlands

(Apr 2018- May 2022)

Researcher PhD Candidate

Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Saarland University, Saarbrücken, Germany

Biogenic Nanotherapeutics group (<https://www.fuhrmann-lab.de/>)

- PhD Project Thesis: "**Extracellular Vesicle-based Nano/Microparticles for Novel Vaccination Approaches**"

(Oct 2016 - Nov 2017)

Assistant Lecturer and Researcher

Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt

- Senior teaching assistant responsible for Pharmaceutics and Industrial Pharmacy undergraduate practical sessions
- Responsible for postgraduate researches in nanotechnology lab

(Jun 2016 – Sep 2016)

Researcher and Master internship (Nanosystems-Initiative Munich)

Ludwig Maximilians University, Munich, Germany

- Selected for three-month funded internship in Munich for prominent Master students in nanotechnology
- Project: "**Synthesis of drug-polymer conjugates for targeted tumor therapy**"

(Jan 2010 - Dec 2015)

Teaching Assistant and Master Researcher

Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt

- Teaching assistant responsible for Pharmaceutics and Industrial Pharmacy undergraduate practical sessions
- Responsible for nanoparticles preparation and characterization

(Sep 2008 - Present)

Registered Pharmacist at the Egyptian Pharmacists syndicate

EDUCATION AND TRAINING

- (May 2022) **PhD Pharmaceutical Technology and Drug Delivery**
Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Saarland University, Saarbrücken, Germany
- Selected for the prestigious German-Egyptian Research Long-term PhD Scholarship (GERLS) funded by the German Service for Academic Exchange (DAAD) and Egyptian Ministry of Higher Education
 - PhD Project Thesis: "**Extracellular Vesicle-based Nano/Microparticles for Novel Vaccination Approaches**"
- (May 2016) **Master of Pharmaceutical Sciences (Pharmaceutics)**
Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
- Master Project Thesis: "**Nano-systems of a curcumin derivative for cancer therapy**"
- (May 2008) **Bachelor of Pharmacy**
Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
- Grade: **Excellent with honour**

Research-related skills

Mastering several fundamental and novel techniques for Extracellular vesicles, bacterial and cell culture, and nano/microparticle preparation and characterization; including:

- Excellent bacterial culture licence (biosafety level 2) and cell culture techniques
- Perfect extracellular vesicle isolation and characterization (ultracentrifuge, size exclusion chromatograph, nanoparticle tracking analysis)
- Advanced laboratory instruments (flow cytometry and confocal laser scanning microscopy)
- Nanoparticle and microparticle preparation skills (high shear homogenizer, Malvern Zetasizer Nano for size and zeta-potential measurements, UV/Visible Spectrophotometer and HPLC, USP dissolution tester.)
- Solid Phase Peptide synthesis, MALDI Mass spectrometry for molecular weight determination and size exclusion chromatography for polymer purification.
- Spray dryer.
- Lyophilisation and Cooling centrifugation.
- Scanning electron microscopy
- Design expert and Graphpad prism statistical programs.
- Perfect command of flow cytometry analysis software (Flowjo®)
- Excellent command of confocal images analysis software (LasX)

Scientific Output

Conferences and Seminars

1. Selected Poster Presentation entitled "Spray-dried antigen-loaded microparticles as a potential anti-tuberculosis vaccine" at the 14th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology
Place: Vienna, Austria. Date: March 2024
2. Selected Podium Talk entitled "Spray-dried Pneumococcal Membrane Vesicles Vaccine for Pulmonary Immunization" at the 13th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology
Place: Rotterdam, Netherlands. Date: March 2022.
3. Selected Podium Talk at Selected Podium presentation entitled "Pneumococcal membrane vesicles are promising vaccine candidates" at the 1st Drug Delivery in Microbial Cells (DDMIC) Conference.
Place: Porto, Portugal. Date: September 2021.
4. Selected Poster presentation at the Controlled Release Society Virtual Annual Meeting "Pneumococcal death-phase membrane vesicles achieve higher yield, while being poor vaccination candidates compared with stationary-phase vesicles"
Place: International Virtual meeting, Date: Jul 2021
5. Selected Podium Talk at Autumn meeting of German Society for Extracellular Vesicles (GSEV) and Austrian Society for Extracellular Vesicles (ASEV) "Extracellular membrane vesicles from Streptococcus alter the cytokine release of immune cells"
Place: Technical University of Munich, Freising, Germany, Date: Nov 2019
6. Poster at PhD Poster Session day of Saarland University "Streptococcal membrane vesicles are not cytotoxic to mammalian somatic and immune cells"
Place: Saarland University, Saarbrücken, Germany, Date: Nov 2019
7. Selected Podium Talk at Helmholtz Institute for Pharmaceutical Research Saarland (HIPS) Symposium "Characterization of Pneumococcal extracellular membrane vesicles"
Place: Saarland University, Saarbrücken, Germany, Date: Jun 2019

List of Publications

1. Fuhrmann, G., & **Mehanny, M.*** (2024). Spray Drying of Bacterial Membrane Vesicles for Vaccine Delivery. In Bacterial Extracellular Vesicles: Methods and Protocols (pp. 163-175). New York, NY: Springer US.
2. Kuhn, T., Aljohmani, A., Frank, N., Zielke, L., **Mehanny, M.**, Laschke, M. W., ... & Fuhrmann, G. (2024). A cell-free, biomimetic hydrogel based on probiotic membrane vesicles ameliorates wound healing. Journal of Controlled Release, 365, 969-980.
3. Kroniger, T., **Mehanny, M.**, Schlüter, R., Trautwein-Schult, A., Köllner, B., & Becher, D. (2022). Effect of Iron Limitation, Elevated Temperature, and Florfenicol on the Proteome and Vesiculation of the Fish Pathogen *Aeromonas salmonicida*. Microorganisms, 10(9), 1735.
4. **Mehanny, M.**, Boese, A., Bornamehr, B., Hoppstädter, J., Presser, V., Kiemer, A. K., ... & Fuhrmann, G. (2022). Spray-dried Pneumococcal Membrane Vesicles are Promising Candidates for Pulmonary Immunization. International Journal of Pharmaceutics, 121794.
5. **Mehanny, M.**, Lehr, C. M., & Fuhrmann, G. (2021). Extracellular vesicles as antigen carriers for novel vaccination avenues. Advanced Drug Delivery Reviews.
6. **Mehanny, M.**, Kroniger, T., Koch, M., Hoppstädter, J., Becher, D., Kiemer, A. K., ... & Fuhrmann, G. (2021). Yields and Immunomodulatory Effects of Pneumococcal Membrane Vesicles Differ with the Bacterial Growth Phase. Advanced Healthcare Materials, 2101151

7. **Mehanny, M.**, Koch, M., Lehr, C. M., & Fuhrmann, G. (2020). Streptococcal extracellular membrane vesicles are rapidly internalized by immune cells and alter their cytokine release. Frontiers in Immunology, 11.
8. Labib, R. M., Ayoub, I. M., Michel, H. E., **Mehanny, M.**, Kamil, V., Hany, M., ... & Mohamed, A. (2019). Appraisal on the wound healing potential of Melaleuca alternifolia and Rosmarinus officinalis L. essential oil-loaded chitosan topical preparations. PloS one, 14(9), e0219561.
9. **Mehanny, M.**, Hathout, R. M., Geneidi, A. S., & Mansour, S. (2017). Studying the effect of physically - adsorbed coating polymers on the cytotoxic activity of optimized bisdemethoxycurcumin loaded - PLGA nanoparticles. Journal of Biomedical Materials Research Part A, 105(5), 1433-1445.
10. **Mehanny, M.**, Hathout, R. M., Geneidi, A. S., & Mansour, S. (2016). Bisdemethoxycurcumin loaded polymeric mixed micelles as potential anti-cancer remedy: preparation, optimization and cytotoxic evaluation in a HepG-2 cell model. Journal of Molecular Liquids, 214, 162-170.
11. **Mehanny, M.**, Hathout, R. M., Geneidi, A. S., & Mansour, S. (2016). Exploring the use of nanocarrier systems to deliver the magical molecule; curcumin and its derivatives. Journal of Controlled Release, 225, 1-30.