

Curriculum Vitae

CONTACT INFORMATION

Name: Safy Hadiya Osman Mosa

Job: Fellow (Lecturer-equivalent)

Institution: Assiut International Center of Nanomedicine, Al-Rajhy Liver Hospital, Assiut University

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Email: ph.s.h.1989@gmail.com

Date of Birth: September 3rd, 1989

Nationality: Egyptian

PERSONAL STATEMENT

Experienced researcher with a decade of expertise in nanotechnology and molecular biology. Focuses on understanding genetic mechanisms of antimicrobial resistance and employs nanotechnology to counter it. Leading efforts in developing nanoparticle-based drug delivery strategies to enhance antibiotics' efficacy and minimize resistance emergence.

ACADEMIC EDUCATION

- June. 2012: **B.Sc. in Pharmaceutical Sciences**, Assiut University, Assiut, Egypt (Excellent with Degree of Honour 86.66%), ranked fourteenth out of 732 students.
- May. 2017: **Master's degree (M.Sc.) in Microbiology and Immunology**, Faculty of pharmacy, Assiut University, with a thesis titled " Evaluation of levofloxacin loaded nanoparticles in decreasing emergence of fluoroquinolone resistance in *E.coli*
- January. 2023: **Ph.D. Degree in Microbiology and Immunology**, Faculty of pharmacy, Minia University, with a thesis titled "Assessment of combined

fluoroquinolone and carbapenem-loaded nanoparticles in decreasing emergence of resistance in *Escherichia coli*

WORK EXPERIENCE

- **Fellow (Lecturer-equivalent)**

Assiut International Center of Nanomedicine, Al-Rajhy Liver Hospital,
Assiut University

April 2024 – Present

- **Researcher pharmacist**

Assiut International Center of Nanomedicine, Al-Rajhy Liver Hospital,
Assiut University

October 2013 – March 2024

- **Hospital pharmacist**

Al-Rajhy Liver Hospital, Assiut University

June-2013 – September-2013

FELLOWSHIP AND GRANTS

- STDF Basic and Applied Research Grant # 29513 (2017)

- STDF One Health Research and Innovation Grant # 48362 (2024)

RESEARCH EXPERIENCES

- Proficient in various microbiological and molecular techniques including DNA extraction, PCR, Gel Electrophoresis, ELISA, bacterial isolation and identification, RT-PCR, plasmid conjugation, and molecular cloning.

- Trained and mentored graduate students in microbiological and molecular laboratory experiments.

- Tutor and mentor for the younger members in Assiut international center of Nanomedicine, Al-Rajhy University, Assiut, Egypt.

SKILLS

- **Microbiological Genetic Techniques:** Real Time-PCR, Polymerase Chain Reaction (PCR), gene sequence analysis, mutant construction, microbial isolation, and identification.

- **Quality Assurance Techniques:** Preparation, characterization, *in-vitro* and *in-vivo* evaluation of different types of nanoparticles.

ATTENDED TRAINING COURSES

- Course in Endnote (Sep 2019)
- Al-Amal Lab Training (June 2016 - January 2017)
- Community Pharmacist Training (2012 - 2013)
- Various courses in organic chemistry, nanomedicine, radiopharmacy, alternative medicine, first aid, cancer chemotherapy, and medical analysis interpretation.

PUBLICATIONS

- 1- Hammad, H. A., **Hadiya, S.**, EL-Feky, M. A., & Aly, S. A. (2017). Co-occurrence of plasmid-mediated quinolone resistance and carbapenemases in *Klebsiella pneumoniae* isolates in Assiut, Egypt. *The Egyptian Journal of Medical Microbiology (EJMM)*, 26(4).
- 2- **Hadiya, S.**, Liu, X., Abd El-Hammed, W., Elsabahy, M., & Aly, S. A. (2018). Levofloxacin-loaded nanoparticles decrease emergence of fluoroquinolone resistance in *Escherichia coli*. *Microbial Drug Resistance*, 24(8), 1098-1107.
- 3- Abdel-Rahim, M. H., EL-Badawy, O., **Hadiya, S.**, Daef, E. A., Suh, S. J., Boothe, D. M., & Aly, S. A. (2019). Patterns of Fluoroquinolone Resistance in Enterobacteriaceae Isolated from the Assiut University Hospitals, Egypt: A Comparative Study. *Microbial Drug Resistance*, 25(4), 509-519.
- 4- **Hadiya, S.**, Radwan, R., Zakaria, M., El-Sherif, T., Hamad, M. A., & Elsabahy, M. (2021). Nanoparticles integrating natural and synthetic polymers for in vivo insulin delivery. *Pharmaceutical development and technology*, 26(1), 30-40.
- 5- Abd el-Rady, N. M., Dahpy, M. A., Ahmed, A., Elgamal, D. A., **Hadiya, S.**, Ahmed, M. A., ... & Galal, H. M. (2021). Interplay of biochemical, genetic, and immunohistochemical factors in the etio-pathogenesis of gastric ulcer in

rats: a comparative study of the effect of pomegranate loaded nanoparticles versus pomegranate peel extract. *Frontiers in Physiology*, 12, 649462.

6- Ghandour, A. M., **Hadiya, S.**, Nasseif, R. G., Sabet, M., Bakyr, R., & Srour, S. (2022). Emergence of Fluoroquinolone resistance and carbapenemase plasmids in *Enterobacter cloacae* isolated from Egyptian Pediatric Hospital. *Egyptian Journal of Medical Microbiology*, 31(2), 37-43.

7- **Hadiya, S.**, Ibrahim, R. A., El-Baky, A., Rehab, M., Elsabahy, M., & Aly, S. A. (2022). Nanoparticles based combined antimicrobial drug delivery system as a solution for bacterial resistance. *Bulletin of Pharmaceutical Sciences. Assiut*, 45(2), 1121-1141.

8- **Hadiya, S.**, Ibrahim, R. A., Abd El-Baky, R. M., Elsabahy, M., & Aly, S. A. (2022). Nanosized Combined Antimicrobial Drugs Decreased Emergence of Resistance in *Escherichia coli*: A Future Promise. *Microbial Drug Resistance*, 28(10), 972-979.

9- Elzeny H., Mohamed W., Daef E., El-Badawy O., Shaaban L., Osman N.S., **Hadiya S.**, and Aly S. 2023. Detection of multiple extensively-drug resistant hypervirulent *Klebsiella pneumoniae* clones from patients with ventilator-associated pneumonia in Egypt. *Journal of Medical Microbiology* 72: 001701.

10- **Hadiya, S.**, Ibrahim, R. A., Abd El-Baky, R. M., Elsabahy, M., Hussein, A. M., Tolba, M. E., & Aly, S. A. (2023). Nano-ciprofloxacin/meropenem exhibit bactericidal activity against Gram-negative bacteria and rescue septic rat model. *Nanomedicine*, 18(22), 1553-1566.

11- Shreet, R. O., Embarek, M. S., KhairAllah, M. K., Aly, S., **Hadiya, S.**, Soliman, I. S., & Elkhawaga, A. A. (2024). Association of Galectin-3 and IL-33/ST2 Axis with Chronic Kidney Disease Severity: Do They Play A Role in Associated Comorbidities?. *Egyptian Journal of Medical Microbiology*, 33(1).

12. Ahmed Mousa, S., Qelliny, M. R., Ibrahim, R. A., **Hadiya, S.**, Sarhan, H. A., & Mady, F. M. (2024). SPANLASTICS: A Unique Formulation Strategy

in The Delivery of Pharmaceuticals-Carbapenems as a Model. *Journal of advanced Biomedical and Pharmaceutical Sciences*, 117-125.

Conferences

Hadiya, S., Liu, X., Abd El-Hammed, W., Elsabahy, M., & Aly, S. A. (2018). Levofloxacin-loaded nanoparticles decrease emergence of fluoroquinolone resistance in *Escherichia coli*. Assiut University 11th International Pharmaceutical Sciences Conference, Assiut, Egypt.

SPECIAL SKILLS

- Languages: Arabic (native), English (excellent writing and speaking).
- Computer: Fundamental of digital transformation certificate, ICDL license.

REFERENCES

1. Prof. Dr. Sherine Ahmed Aly

Department of Medical Microbiology and Immunology, Faculty of Medicine, Assiut University, Assiut, Egypt

2. Prof. Dr. Rehab Mahmoud Abd El-Baky

Department of Microbiology and Immunology, Faculty of Pharmacy, Deraya University, Minia, Egypt

Vice Dean of faculty for environmental affairs and community service, Faculty of Pharmacy, Deraya University, Minia, Egypt

3. Prof. Dr. Reham Aly Ibrahim

Department of Microbiology and Immunology, Faculty of Pharmacy, Minia University, Minia, Egypt

Head of the Microbiology Department Faculty of Pharmacy, Minia University, Minia, Egypt.

4. Prof. Dr. Mahmoud El-Badry

Department of Pharmaceutics, Faculty of Pharmacy, Assiut University, Assiut, Egypt

Director, Assiut International Center of Nanomedicine, Assiut University, Assiut, Egypt