

Personal Information:

Name : Mohamed Mahmoud Fathy Ahmed
Nationality : Egyptian
Date of Birth : 24 February 1987
Place of Birth : Giza, Egypt
Address : Ehbrahim Soliman, No. 26, Eltawen, Faisal, Giza, Egypt
Postal address : Biophysics Department, Faculty of Science, Cairo University, Egypt.
Occupation : **Associate professor, Molecular Biophysics**
Tel. (Mobile) : 00202-01119904332
E Mail : mfathy@sci.cu.edu.eg , mohammed.elasal@gmail.com



Education:

- **2007, B.Sc. (Biophysics) Cairo University, Egypt**
Accumulative grade of B.Sc.: Excellent with honor (ranked first on biophysics department).
- **2008 - 2009 Pre-Master Course (Biophysics) Cairo University, Egypt**
- **2009 - 2011 M.Sc. (Molecular Biophysics), Cairo University, Egypt**
Thesis approved by: **Prof. Eugenia Kovacs**, Biophysics professor, Dep. Biophysics and Cell Biotechnology, Carol Davila Medical University, Rom.
- **2011-2014 Ph.D. (Molecular Biophysics) Cairo University, Egypt**
Thesis approved by: **(1) Prof. Dr. Eugenia Kovacs Biophysics professor**, Dep. Biophysics and Cell Biotechnology, Carol Davila Medical University, Rom. **(2) Prof. Dr. Mohamad Suhaimi Jaafar**, Dean School of Physics, Universiti Sains, Malaysia.
- **2017-I have received ERASMUS+ International Credit Mobility (ICM) grant, for researches and training**, at Biochemistry and Structural Biology Department, Lund University, Lund, Sweden.
- **2020- Associate professor, Biophysics department, faculty of science, Cairo University.**

Research Projects Experience:

- **2021-** Participating in project entitled “Nisin/Gallic acid conjugated gold nanospheres as a novel therapeutic approach for the treatment of cancer” funded by science and technology development fund (STDF) for 24 months (**funded with 1,6 million EGP**).
- **2019-** Participating(**Co-PI**) in project entitled “Nanocarriers based approaches for the treatment of multiple sclerosis” funded by science and technology development fund (STDF) for 24 months(**funded with 1,2 million EGP**).
- **2019-** Participating in project entitled “Metal oxide coating of silver nanoparticles to improve their Physio-chemical and optical properties” funded by science and technology development fund (STDF) for 12 months (**funded with 0,2 million EGP**).
- **2018- (PI)** Awarded project entitled “Treatment of iron deficiency anaemia using of iron oxide nanoparticles-loaded liposome” funded by Cairo University for 24 months (**funded with 0,2 million EGP**).
- **2018-**Participating in a research team funded by **King Abdulaziz University**.
- **2014-**Participating in a research project entitled “Enhancement of the therapeutic efficacy of anticancer drug using nanoparticles” funded by faculty of science, Cairo University.

- **2010**–Awarded Graduate Research Challenge Fund (GRCF), Cairo University. This fund provides a one year support for master research (**PI**).

Teaching and work Experience:

➤ **2013 – to present, Lecturer at Biophysics Department, Cairo University.**

- Designed and delivered lectures in large- and small- groups; planned and implemented hands-on experiments in medical applications of nanotechnology research.
- Taught the following courses for students of **biophysics department, faculty of physical therapy, faculty of veterinary medicine and biotechnology program:**

Course	level	University, Faculty
Biophysics (I)and(II)	1st level students	Egyptian Chinese University, Faculty of Physical Therapy
Medical Biophysics	PhD student	Cairo University, Biophysics department
Molecular Biophysics	3th level students	Biotechnology
Biophysical measurements	4th level students	Cairo University, Biophysics department
Molecular Biophysics	4th year (practical course)	Cairo University, Biophysics department
Environmental biophysics	2nd level student	Cairo University, Biophysics department

- **Supervision of eight M.Sc. and five Ph.D. students from Cairo, Ein-Shams and Assiut Universities.**
 - **2008 – 2013 Teaching Assistant at Biophysics Department, Cairo University.**
- Planned and implemented hands-on laboratory experiments. Designed evaluation tools for both theoretical and wet lab in molecular and radiation biophysics.

Selected Publications:

- AL-Shareef, J. M., Attalla, E. M., El-Gebaly, R. H., Deiab, N. A., Abdelmajeed, M., & **Mohamed M. Fathy**. Implementation of in-vivo diode dosimetry for intensity modulated radiotherapy as routine patients' quality assurance. **Radiation Physics and Chemistry**, (2021). 109564.
- **Mohamed M. Fathy** Lamiaa Nasser, Gamal El-Sokkary, Mahmoud S. Rasheedy " Combined chemo-photothermal therapy of metastatic mammary adenocarcinoma using curcumin-coated iron oxide nanoparticles" **BioNanoScience**. (2021)
- Heba M. Fahmy, Taiseer M. Abd El Daim, Omnia A. Ali, Asmaa A. Hassan, Faten F. Mohammed, **Mohamed M. Fathy**, Surface modifications affect iron oxide nanoparticles' biodistribution after multiple dose administration in rats, **J Biochem Mol Toxicol**. (2021);e22671.
- Fatma M Yassin, Heba M. Fahmy, Wael M Elshemey, **Mohamed M. Fathy**, X-ray Scattering Techniques as a New Tool to Optimize the Preparation of Mesoporous Silica Nanoparticles as Drug Delivery System, **Radiation Physics and Chemistry**, (2021).

- **Mohamed M. Fathy** "Biosynthesis of Silver Nanoparticles Using Thymoquinone and Evaluation of Their Radio-Sensitizing Activity." **BioNanoScience** (2020): 1-7.
- **Mohamed M. Fathy**, Multifunctional Thymoquinone-capped iron oxide nanoparticles for combined chemophotothermal therapy of cancer, **Journal of Superconductivity and Novel Magnetism**, (2020)
- Elbially, Nihal S., **Mohamed M. Fathy**, AL-Wafi Reem, Reem Darwesh, Umama A. Abdel-dayem, Musab Aldhahri, Abdulwahab Noorwali, and Attieh A. AL-ghamdi. "Multifunctional magnetic-gold nanoparticles for efficient combined targeted drug delivery and interstitial photothermal therapy." **International journal of pharmaceutics** 554 (2019): 256-263.
- **Mohamed M. Fathy**, Heba M. Fahmy, Omnia A. Saad, and Wael M. Elshemey. "Silica-coated iron oxide nanoparticles as a novel nano-radiosensitizer for electron therapy." **Life sciences** 234 (2019): 116756.
- **Mohamed M. Fathy**, Heba M. Fahmy, Asmaa MM Balah, Faten F. Mohamed, and Wael M. Elshemey. "Magnetic nanoparticles-loaded liposomes as a novel treatment agent for iron deficiency anemia: In vivo study." **Life sciences** 234 (2019): 116787.
- Fahmy, Heba M., **Mohamed M. Fathy**, Raghda A. Abd-Elbadia, and Wael M. Elshemey. "Targeting of Thymoquinone-loaded mesoporous silica nanoparticles to different brain areas: In vivo study." **Life sciences** 222 (2019): 94-102.
- Tawfeek, G. Mostafa, Mohammad H. Abdel Baki, Ayman N. Ibrahim, Marmar A. Mostafa, **Mohamed M. Fathy**, and Marwa Salah El Din Mohamed Diab. "Enhancement of the therapeutic efficacy of praziquantel in murine Schistosomiasis mansoni using silica nanocarrier." **Parasitology research** 118, no. 12 (2019): 3519-3533.
- **Mohamed M. Fathy**, Fayrouz S. Mohamed, NihalSaad Elbially, and Wael M. Elshemey. "Multifunctional Chitosan-Capped Gold Nanoparticles for enhanced cancer chemo-radiotherapy: An invitro study." **Physica Medica** 48 (2018): 76-83.
- El-Fattah, Abeer I. Abd, **Mohamed M. Fathy**, Zeinab Y. Ali, Abd El-Rahman A. El-Garawany, and Ehsan K. Mohamed. "Enhanced therapeutic benefit of quercetin-loaded phytosome nanoparticles in ovariectomized rats." **Chemico-biological interactions** 271 (2017): 30-38.
- Elbially, Nihal Saad, **Mohamed M. Fathy**, and Wafaa Mohamed Khalil. "Doxorubicin loaded magnetic gold nanoparticles for in vivo targeted drug delivery." **International journal of pharmaceutics** 490, no. 1-2 (2015): 190-199.
- Elbially, Nihal Saad, **Mohamed M. Fathy**, and Wafaa Mohamed Khalil. "Preparation and characterization of magnetic gold nanoparticles to be used as doxorubicin nanocarriers." **Physica Medica** 30, no. 7 (2014): 843-848.
- Mady, Mohsen Mahmoud, **Mohamed M. Fathy**, Tareq Youssef, and Wafaa Mohamed Khalil. "Biophysical characterization of gold nanoparticles-loaded liposomes." **Physica Medica** 28, no. 4 (2012): 288-295.
- **Mohamed M. Fathy**, Lamiaa Nasser, Gamal El-Sokkary, Mahmoud S. Rasheedy, Preparation and characterization of curcumin loaded iron oxide nanoparticles for breast cancer cytotoxic effect, *Assiut Univ. J. of Physics* 48(2), pp.88-98 (2019) Printed ISSN: 1687-4900

- Fatma M Yassin, **Mohamed M. Fathy**, Fahmy, Heba M. and Wael M Elshemey , biophysical characterization of mesoporous silica nanoparticles. The Medical journal of Cairo University in press (2019). ISSN: 0045- 3803
- Omnia A. Saad, Fahmy, Heba M, **Mohamed M. Fathy** and Wael M Elshemey, preparation, characterization and cytotoxicity of silica coated iron oxide magnetic nanoparticles. The Medical journal of Cairo University in press (2019). ISSN: 0045- 3803

Profession Related Experience

- Reviewer for **European Journal Medical Physics**.
- Reviewer for **International Journal of Pharmaceutics**.
- Reviewer for **Pharmaceutical Biology journal**.
- Reviewer for **International Journal of Nanomedicine**.
- Reviewer for **Molecular Biology Reports**
- Reviewer for **BioNanoScience**
- 2019- Participated in “*Manipulation with experimental animals workshop*” held with a collaboration between Zoology department, Cairo university and Utrecht university Netherlands.
- 2018- Participated in “Modern trends in biophysics” held at Cairo University
- 2017- Organized and Participated (speaker) in the “*experimental sessions for nanoparticles preparations*” held at Biochemistry and Structural Biology Department, Lund University, Lund, Sweden.
- 2016- Participated in “*school on Synchrotron and Free-Electron-Laser based methods: Multidisciplinary Applications and perspectives*” held in the Abdus Salam International Center for theoretical physics (ICTP), Trieste, Italy.
- 2014- Participated with a poster in “*Application of synchrotron radiation in nanomaterials*” Cairo University.
- 2014- Organized and Participated in the “*Modern trends in biophysics*”, Cairo University.
- 2014- Organized and Participated (speaker) in the “*Nanomedicine and Nanotechnology Workshop*” Cairo University.
- 2014- Organized and Participated (speaker) in the “*Nanomedicine and Nanotechnology conference*” Zagazig University.
- 2013- Organized and Participated in the “*School of Structural Bioinformatics*” held at Cairo University by collaboration between Biophysics department, Cairo University, Egypt & Biochemistry and Structural biology department, Lund University, Sweden.
- 2012- Participated in “*Third Link SCEEM cross-sectional HPC workshop*” [Structural and Computational Biophysics group] held at Faculty of Computers and Information - Cairo University & American University in Cairo, Egypt.
- 2011- Participated with a poster in “*Industrial applications of nanotechnology*”, Nanotech. Company, Cairo, Egypt.
- 2011- Participated in training course in How to Compete For a Researcher Fund, cairo, Egypt.
- 2011- Participated in training course in “Code of Ethics” cairo, Egypt.

- 2008 - Participated in Synchrotron-light for Experimental Science and Applications in the Middle East- Japan Society for Promotion of Science (SESAME-JSPS) , 7th User Meeting Cairo University ,Cairo ,Egypt

Honors:

- **2020 Cairo University Encouragement Prize for Physical Sciences**
- **2008 The best Teacher Assistant, Biophysics Department, Faculty of Science, Cairo University.**

Referees:

- **Prof. Nihal Elbially (Ph.D. supervisor)**
Professor, Faculty of Science, King Abdulaziz University.
E-mail: n_elbially@hotmail.com
- **Prof. Mohsen M. Mady (M.Sc. supervisor)**
Professor, Department of Physics and Astronomy, Faculty of Science, King Saud University.
E-mail: dr_mmady@yahoo.com
- **Prof. Dr. Wael M. Elshemey**
Professor, Department of Physics, Faculty of Science, Islamic University in Madinah, KSA.
E-mail: waelelshemey@yahoo.com