

Ahmed Mahmoud Mahmoud Elkerdawy

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### Current position

Associate professor – Department of Pharmaceutical Chemistry  
Faculty of Pharmacy – Cairo University.

Associate professor of pharmaceutical chemistry – Faculty of Pharmacy  
NewGiza University

### Education

**PostDoc training (Computer-Aided Drug Design)** 2013-2014

*Erlangen-Nuremberg University, Erlangen, Germany.*

Prof. Tim Clark research group

**Doctorate of natural sciences (Chemistry and Pharmacy)** 2013

*Erlangen-Nuremberg University, Erlangen, Germany.*

“magna cum laude” - Under the supervision of Prof. Tim Clark

“CADD Optimization by Using Quantum-Mechanical Approaches for a  
More Accurate Description of Non-Covalent Intermolecular Interactions”

**Master’s degree in pharmaceutical science (Medicinal Chemistry)** 2007

*Faculty of pharmacy, Cairo University, Cairo, Egypt*

“Synthesis of Certain Substituted Chromone and Furochromone Derivatives  
with Pharmacological Activities”

**Premaster courses (Medicinal Chemistry)** 2003

*Faculty of pharmacy, Cairo University, Cairo, Egypt*

**Bachelor’s degree of pharmaceutical sciences** 2001

*Faculty of pharmacy, Cairo University, Cairo, Egypt*

“Excellent with honor”

### Academic career

**Associate professor in the pharmaceutical and medicinal chemistry  
department, Faculty of pharmacy, Cairo University, Egypt.** 2020-  
**Associate professor (Full Time) and Head of Department of  
Pharmaceutical Chemistry School of Pharmacy – NewGiza university.** 2020-  
**Lecturer (Full Time)- Department of Pharmaceutical Chemistry** 2019-2020  
*School of Pharmacy – NewGiza university.*  
**Lecturer (Part Time)- Department of Pharmaceutical Chemistry** 2017-2019  
*Faculty of Pharmacy – NewGiza university.*  
**Lecturer (Part Time)- Department of Pharmaceutical Chemistry** 2015-2017  
*Faculty of Pharmacy – MSA university.*

<b>Lecturer (Part Time)- Department of Pharmaceutical Chemistry</b> <i>Faculty of Pharmacy – Ain Shams university.</i>	2015
<b>Head of the molecular modeling unit</b> <i>Faculty of pharmacy, Cairo University, Egypt.</i>	2016-2019
<b>Lecturer in the pharmaceutical and medicinal chemistry department,</b> <i>Faculty of pharmacy, Cairo University, Egypt.</i>	2015-2020
<b>Assistant lecturer in the pharmaceutical and medicinal chemistry department,</b> <i>Faculty of pharmacy, Cairo University, Egypt.</i>	2008-2014
<b>Instructor in the Pharmaceutical and Medicinal Chemistry department,</b> <i>Faculty of pharmacy, Cairo University, Egypt.</i>	2001-2007
<ul style="list-style-type: none"> <li>• Demonstration of various chemical quality control protocols.</li> <li>• Demonstration of various analytical chemistry approaches.</li> <li>• Demonstration of various molecular structure identification procedures.</li> <li>• Demonstration of various synthetic chemistry procedures.</li> </ul>	

### Teaching Experience

- Basic general, physical and organic chemistry.
- Medicinal chemistry undergraduate courses. (Different Drug classes)
- Introductory Drug Design courses (Principles of Drug Design).
- Advanced Drug Design courses (Postgraduate level).
- Drug discovery and development Diploma. (Computer-aided drug design module)

### Funded Research Projects

- 1- **ASRT**, Academy of Scientific Research and Technology, Egypt  
Grant Code: KTA-C4-4267  
"Towards the Establishment of a Globally Compliant Egyptian Active Pharmaceutical Ingredient Facility for Critical Diseases"  
**April 2020 – Running**
- 2- **STDF-RSG**, Science & Technology Development Fund, Egypt  
Grant Code: 34848  
"Development of Novel EGF Receptor Inhibitors Targeting Non-Small Cell Lung Cancer (NSCLC)"  
**October 2019 – Running**
- 3- **STDF-RSG**, Science & Technology Development Fund, Egypt  
Grant Code: 30069  
"Design, Synthesis, and Biological Evaluation of Novel Raf -1/VEGFR-2 Inhibitors as Antiangiogenic Agents"  
**October 2019 – Closed**
- 4- **STDF-RSG**, Science & Technology Development Fund, Egypt  
Grant Code: 34859  
"Synthesis and biological evaluation of novel fibrates as antihyperlipidemic agents"  
**October 2019 – Closed**
- 5- Bilateral project: **NRC**, National Research Centre & **CNR**, *Istituto di Chimica del Riconoscimento Molecolare*  
Project code: IT II 020702  
"Design, Synthesis and Biological Evaluation of Novel Chalcone-based Fibrates as Novel PPAR- $\alpha$  Agonists"  
**March 2018 – Closed**
- 6- **STDF-RSG**, Science & Technology Development Fund, Egypt

Project code: 15063

“Development of Novel VEGF Tyrosine Kinase Receptor Antagonists *Utilizing Molecular Modeling Techniques*”;

**March 2017 – Closed**

**H-index** 17

**Total publication** 52

### Publications

2021-2022

- 1- Abdel-Mohsen, H.T., **El Kerdawy, A.M.**, Petreni, A., Supuran, C.T. Novel benzenesulfonamide-thiouracil conjugates with a flexible N-ethyl acetamide linker as selective CA IX and CA XII inhibitors (2022) *Archiv der Pharmazie*. DOI: 10.1002/ardp.202200434
- 2- Ghannam, I.A.Y., **El Kerdawy, A.M.**, Mounier, M.M., Abo-elfadl, M.T., Ali, I.H. Novel 2-oxo-2-phenylethoxy and benzyloxy diaryl urea hybrids as VEGFR-2 inhibitors: Design, synthesis, and anticancer evaluation (2022) *Archiv der Pharmazie*. DOI: 10.1002/ardp.202200341
- 3- Fouad, M.A., Serag, A., Tolba, E.H., El-Shal, M.A., **El Kerdawy, A.M.** QSRR modeling of the chromatographic retention behavior of some quinolone and sulfonamide antibacterial agents using firefly algorithm coupled to support vector machine (2022) *BMC Chemistry*, 16 (1) DOI: 10.1186/s13065-022-00874-2
- 4- Mohamed, A.R., **El Kerdawy, A.M.** A Perspective Study on the RTK, PI3K, B-Raf, CDK and the Multi-Protein Targeting in Medicinal Chemistry (2022) *Chemistry and Biodiversity*, 19 (10), art. no. e202200328. DOI: 10.1002/cbdv.202200328
- 5- Ali, I.H., Abdel-Mohsen, H.T., Mounier, M.M., Abo-elfadl, M.T., **El Kerdawy, A.M.**, Ghannam, I.A.Y. Design, synthesis and anticancer activity of novel 2-arylbenzimidazole/2-thiopyrimidines and 2-thioquinazolin-4(3H)-ones conjugates as targeted RAF and VEGFR-2 kinases inhibitors (2022) *Bioorganic Chemistry*, 126, art. no. 105883. DOI: 10.1016/j.bioorg.2022.105883
- 6- Hassan, R.M., Ali, I.H., Abdel-Maksoud, M.S., Abdallah, H.M.I., **El Kerdawy, A.M.**, Sciandra, F., Ghannam, I.A.Y. Design and synthesis of novel quinazolinone-based fibrates as PPAR $\alpha$  agonists with antihyperlipidemic activity (2022) *Archiv der Pharmazie*, 355 (3), art. no. 2100399. DOI: 10.1002/ardp.202100399
- 7- 46. Abd El-Meguid, E.A., Naglah, A.M., Moustafa, G.O., Awad, H.M., **El Kerdawy, A.M.** Novel benzothiazole-based dual VEGFR-2/EGFR inhibitors targeting breast and liver cancers: Synthesis, cytotoxic activity, QSAR and molecular docking studies (2022) *Bioorganic and Medicinal Chemistry Letters*, 58, art. no. 128529. DOI: 10.1016/j.bmcl.2022.128529
- 8- Abdel-Mohsen, H.T., **El Kerdawy, A.M.**, Omar, M.A., Petreni, A., Allam, R.M., El Diwani, H.I., Supuran, C.T. Application of the dual-tail approach for the design and synthesis of novel Thiopyrimidine–Benzenesulfonamide hybrids as selective carbonic anhydrase inhibitors (2022) *European Journal of Medicinal Chemistry*, 228, art. no. 114004. DOI: 10.1016/j.ejmech.2021.114004
- 9- 44. El-Gazzar, Y.I., Ghaiad, H.R., **El Kerdawy, A.M.**, George, R.F., Georgey, H.H., Youssef, K.M., El-Subbagh, H.I. New quinazolinone-based derivatives as DHFR/EGFR-TK inhibitors: Synthesis, molecular modeling simulations, and anticancer activity (2022) *Archiv der Pharmazie*. DOI: 10.1002/ardp.202200417
- 10- Nofal, Z.M., Amin, K.M., Mohamed, H.S., **El-Kerdawy, A.M.**, Aly, M.S., Habib, B.S., Sarhan, A.E. Design, synthesis, biological evaluation, and molecular docking of novel quinazolinone EGFR inhibitors as targeted anticancer agents (2022)

- Synthetic Communications, 52 (18), pp. 1805-1824. DOI: 10.1080/00397911.2022.2114373
- 11- Al-Warhi, T., **El Kerdawy, A.M.**, Said, M.A., Albohy, A., Aljaeed, N., Elkaeed, E.B., Eldehna, W.M., Abdel-Aziz, H.A., Elsayed, Z.M., Abdelmoaz, M.A. Novel 2-(5-Aryl-4,5-Dihydropyrazol-1-yl)thiazol-4-One as EGFR Inhibitors: Synthesis, Biological Assessment and Molecular Docking Insights (2022) Drug Design, Development and Therapy, 16, pp. 1457-1471. DOI: 10.2147/DDDT.S356988
  - 12- Eldehna, W.M., Maklad, R.M., Almahli, H., Al-Warhi, T., Elkaeed, E.B., Abourehab, M.A.S., Abdel-Aziz, H.A., **El Kerdawy, A.M.** Identification of 3-(piperazinylmethyl)benzofuran derivatives as novel type II CDK2 inhibitors: design, synthesis, biological evaluation, and in silico insights (2022) Journal of Enzyme Inhibition and Medicinal Chemistry, 37 (1), pp. 1227-1240. DOI: 10.1080/14756366.2022.2062337
  - 13- Zaky, D.A., Eldehna, W.M., **El Kerdawy, A.M.**, Abdallah, D.M., El Abhar, H.S., Wadie, W. Recombinant human growth hormone improves the immune status of rats with septic encephalopathy: The role of VEGFR2 in the prevalence of endoplasmic reticulum stress repair module (2021) International Immunopharmacology, 101, art. no. 108370. DOI: 10.1016/j.intimp.2021.108370.
  - 14- Abdallah, A.M., Zaki, N.G., Mahmoud, W.H., **El Kerdawy, A.M.**, Mohamed, G.G. Synthesis, structural characterization, density functional theory calculations, and antimicrobial, anticancer, and antimetastatic properties of nanosized heteroleptic complexes of cocaine/TMEDA with d-block metal ions (2021) Applied Organometallic Chemistry, 35 (12), art. no. e6441. DOI: 10.1002/aoc.6441.
  - 15- Halim, P.A., Georgey, H.H., George, M.Y., **El Kerdawy, A.M.**, Said, M.F. Design and synthesis of novel 4-fluorobenzamide-based derivatives as promising anti-inflammatory and analgesic agents with an enhanced gastric tolerability and COX-inhibitory activity (2021) Bioorganic Chemistry, 115, art. no. 105253. DOI: 10.1016/j.bioorg.2021.105253.
  - 16- Hassan, R.M., Aboutabl, M.E., Bozzi, M., El-Behairy, M.F., **El Kerdawy, A.M.**, Sampaolese, B., Desiderio, C., Vincenzoni, F., Sciandra, F., Ghannam, I.A.Y. Discovery of 4-benzyloxy and 4-(2-phenylethoxy) chalcone fibrate hybrids as novel PPAR $\alpha$  agonists with anti-hyperlipidemic and antioxidant activities: Design, synthesis and in vitro/in vivo biological evaluation (2021) Bioorganic Chemistry, 115, art. no. 105170. DOI: 10.1016/j.bioorg.2021.105170.
  - 17- Mohamed, A.R., **El Kerdawy, A.M.**, George, R.F., Georgey, H.H., Abdel Gawad, N.M. Design, synthesis and in silico insights of new 7,8-disubstituted-1,3-dimethyl-1H-purine-2,6(3H,7H)-dione derivatives with potent anticancer and multi-kinase inhibitory activities (2021) Bioorganic Chemistry, 107, art. no. 104569. DOI: 10.1016/j.bioorg.2020.104569.
  - 18- Ibrahim, H., **El Kerdawy, A.M.**, Abdo, A., Sharaf Eldin, A. Similarity-based machine learning framework for predicting safety signals of adverse drug–drug interactions (2021) Informatics in Medicine Unlocked, 26, art. no. 100699. DOI: 10.1016/j.imu.2021.100699.
  - 19- Eldehna, W.M., Al-Rashood, S.T., Al-Warhi, T., Eskandrani, R.O., Alharbi, A., **El Kerdawy, A.M.** Novel oxindole/benzofuran hybrids as potential dual CDK2/GSK-3 $\beta$  inhibitors targeting breast cancer: design, synthesis, biological evaluation, and in silico studies (2021) Journal of Enzyme Inhibition and Medicinal Chemistry, 36 (1), pp. 270-285. DOI: 10.1080/14756366.2020.1862101.

**Industrial training**      **Boehringer Ingelheim pharmaceutical company,**      8/2012-9/2012  
Biberach, Germany  
Lead identification and lead optimization support department  
**Project** Economical and Accurate Protocol for Calculation of Hydrogen-Bond Strength for Drug Molecules.

### Awards

- Excellence awards throughout the college years 1997, 98 (5<sup>th</sup>), 99 (11<sup>th</sup>), 2000 (5<sup>th</sup>) and 2001 (2<sup>nd</sup>).
- Best instructor award in the department of pharmaceutical chemistry, Cairo University for the year 2006.
- Poster prize in the 49<sup>th</sup> Theoretical chemistry symposium (Erlangen-Nuernberg Uni.) 2013.
- Nomination for the award of scientific excellence of the ACS 2013 (Division of chemical information).

### Scholarships

DAAD scholarship for studying in Germany 10/2009-04/2013.

### Conferences and workshops

- Invited trainer and lecturer in the “Computer-aided drug design in Drug Discovery” workshop - School of pharmacy – NewGiza University – September 2021
- Invited trainer and lecturer in the “Computer-aided drug design – Strategies and Applications” workshop - faculty of pharmacy – El Azhar University – February 2019
- Invited speaker in the “Recent advances in Pharmaceutical and biomedical applications” Workshop – National Research Center – Cairo -October 2018.
- Invited trainer and lecturer in the “Application of QSAR in Drug Discovery” workshop - faculty of pharmacy – 6<sup>th</sup> October University – September 2018
- Invited speaker in the 1<sup>st</sup> Mini Student’s Conference “Frontier Research in Medicinal Chemistry – Approaches in anticancer therapy” – Russian university in Egypt- Badr City - December 2017.
- Invited speaker in the 6<sup>th</sup> International conference of pharmaceutical and drug industries – research division – National research center – October 2017.
- Invited trainer and lecturer in the CADD I “LBDD” workshop - faculty of pharmacy – Cairo University – July 2017
- Invited speaker in the 8<sup>th</sup> conference for the faculty of pharmacy, Cairo University; “Worldwide Pharmaceutical Education – Germany as a case study” - 2017
- Attendance “Towards manufacturing of active and inactive pharmaceutical ingredients in Egypt” workshop – Scientific Research Academy – Cairo – Egypt - December 2016.
- Attendance “1<sup>st</sup> Drug Discovery” workshop – National Research Center – Cairo - December 2016.
- Invited trainer in the molecular modeling workshop - faculty of pharmacy – Asyut University - April 2016.
- C&EN’s Virtual symposium: Advances in drug discovery and development. Online event 16<sup>th</sup> September 2015.
- Invited trainer in the molecular modeling workshop - faculty of pharmacy – Ain-shams

University - May 2015.

- Organizer and lecturer in the workshop “Drug Design strategies: Theories and applications” Faculty of pharmacy – Cairo University – March-May 2015.
- Invited speaker in the 6<sup>th</sup> conference of the faculty of pharmacy – Cairo University - April 2015.
- Invited speaker in the 1<sup>st</sup> scientific day, Drug Design and Development Day: From Bench to Market, Zewail City of Science and Technology, 2015.
- Poster presentation in the 28<sup>th</sup> workshop of molecular modelling (Computer-chemistry-center, Erlangen-Nuremberg Uni.) 2014.
- Talk presentation in the 9<sup>th</sup> conference of chemoinformatics 2013 Fulda-Germany.
- Poster presentation in the 49<sup>th</sup> Theoretical chemistry symposium (Erlangen-Nuremberg Uni.) 2013.
- Talk presentation in the 27<sup>th</sup> workshop of molecular modelling (Computer-chemistry-center, Erlangen-Nuremberg Uni.) 2013.
- Talk and poster presentation in the 6<sup>th</sup> Summer school “Medicinal chemistry” (University of Regensburg) 2012.
- Participation in the “sequence to structure” Course, Computer-chemistry-center, Erlangen-Nuremberg Uni.) 2012.
- Talk and poster presentation in the 26<sup>th</sup> workshop of molecular modelling (Computer-chemistry-center, Erlangen-Nuremberg Uni.) 2012.
- Participation in the “Literature search for efficient research” workshop, Erlangen-Nuremberg Uni.) 2012.
- Participation in the 25<sup>th</sup> workshop of molecular modelling (Computer-chemistry-center, Erlangen-Nuremberg Uni.) 2011.
- Participation in the “Symposium and 80th birthday of Paul von Ragué Schleyer” under the title of “Theory and Experiment: Synergy or Competition?”. 2010
- Poster presentation in the 1<sup>st</sup> conference for the faculty of pharmacy, Cairo University (March 2008).
- Computer-aided drug design using Molecular Operating Environment software 2008.

## Activities

- Scientific coordinator for the 9<sup>th</sup> international conference for the faculty of pharmacy, Cairo University. As a member of the organizing committee. 2018
- Scientific coordinator for the 8<sup>th</sup> conference for the faculty of pharmacy, Cairo University. As a member of the organizing committee. 2017
- Scientific coordinator for the 7<sup>th</sup> conference for the faculty of pharmacy, Cairo University. As a member of the organizing committee. 2016
- Head of the Alumni Office - Faculty of Pharmacy – Cairo University 2015-2016
- Participation in accreditation project of the faculty of pharmacy 2007 as a member of the executive committee.
- Participation in the preparation for the 1<sup>st</sup> conference for the faculty of pharmacy, Cairo University. As a member of the organizing committee. 2008
- Supervision of many student tours in several drug factories in Egypt. 2001-2009

**Soft skill courses**

- Academic publishing “Nature research academic”
- Crisis management
- Change management
- Strategic planning and management of higher education institutions.
- I am not just a number “Researcher, journal and institutes Metrics”
- Online quiz design (using Socrative and google form).
- Effective communication skills.
- Grant Proposal writing
- Faculty profession ethics and morals.
- Presentation Skills in English.
- Quality assurance and accreditation.
- Scientific research methods.
- Using of technology in teaching.
- Art of efficient literature search and literature management (in German).
- Time management and teamwork.
- Basic management.
- Scientific publication.

**Languages**

- English: Excellent.
- German: Good.
- Arabic: Native.

**Personal data**

- ***Date of birth*** 01/10/1979.
- ***Place of birth*** Cairo - Egypt.
- ***Nationality*** Egyptian.
- ***Marital Status*** married with two children.