
CURRICULUM VITAE

Dr Rasha Abdelhady Mohamed

**Associate Prof. in Pharmacology and Toxicology, Faculty of Pharmacy, Egyptian
Chinese University**

Ph.D. Pharmacology, The University of Manchester, UK.

MSc. Pharmacology and Toxicology, Ain Shams University.

BSc. Pharmaceutical Sciences, Ain Shams University.

Email: rasha.ph@gmail.com

ram14@fayoum.edu.eg

1. Personal Record

1.1. Personal Details

Country of Birth: Egypt
Nationality: Egyptian
Current Address: Cairo, Egypt.

1.2. Education

2014 – 2018 Ph.D. Pharmacology, Faculty of Biology Medicine and Health,
The University of Manchester, Manchester, UK (Award date:
23rd Jan 2018).

2006 – 2011 MSc. Pharmaceutical Sciences (Pharmacology and Toxicology),
Faculty of Pharmacy, Ain Shams University, Cairo, Egypt
(Award date: 19th Dec 2011).

2004 – 2006 Faculty of Pharmacy, Ain Shams University, Cairo, Egypt (**MSc.
Preliminary 3 semesters Courses**).

1998 – 2003 BSc. Pharmaceutical Sciences (Excellent with honor), Faculty of
Pharmacy, Ain Shams University, Cairo, Egypt (Award date:
May 2003).

1.3. University Positions

1.3.1 Current University Positions

- June Present** **2024-** Assoc. Prof. (Teaching & Research) in Pharmacology and Toxicology, Faculty of Pharmacy, Fayoum University, Fayoum, Egypt.
- 2018 – May 2024** Lecturer (Teaching & Research) in Pharmacology and Toxicology, Faculty of Pharmacy, Fayoum University, Fayoum, Egypt.
- Sep. Present** **2023** - Lecturer (Part-time) in Clinical Pharmacy, Faculty of Pharmacy, Sinai University

1.3.2 Former University Positions

- Feb. 2023 – July 2023** Lecturer (Part-time) in Clinical Pharmacy, Faculty of Pharmacy, Sinai University
- Feb. 2023 – July 2023** Lecturer (Part-time) in Clinical Pharmacy, Faculty of Pharmacy, Delta University
- Sep. 2018 – July 2021** Academic (Teaching & Research) Lecturer in Pharmacology, Heliopolis University (HU), Cairo, Egypt.

1.3.1 Teaching activities

1.3.1.1 Teaching activities at Egyptian Universities

Associate Prof in Pharmacology and Toxicology, Faculty of Pharmacy, Fayoum University

Academic Year 2023-2024

Fall Semester:

Pharmacology II course (Clinical Pharm D program)
Physiology & Pathophysiology course (Clinical & General Pharm D programs)
Medical Terminology course (Clinical & General Pharm D programs)
Pharmacology III course (General Pharm D program)

Academic Year 2022-2023

Spring Semester:

Pharmacology I course (Clinical Pharmacy program)
Pharmacology III course (Clinical Pharmacy program)
First aid
Pharmacology II course (General Pharm D program)

Biostatistics

Biostatistics and Bioassay

Fall Semester:

Therapeutics I course (Clinical Pharmacy program)
Drug Interactions course (Clinical & General Pharmacy programs)
Pharmacology II course (Clinical Pharm D program)
Physiology & Pathophysiology course (Clinical & General Pharm D programs)
Medical Terminology course (Clinical & General Pharm D programs)
Pharmacology III course (General Pharm D program)
Veterinary Pharmacology course

Postgraduate Pharmacology Diploma

Oncology Course

Advanced Applied Pharmacology Course

Clinical Pharmacology Course

Academic Year 2021-2022

Spring Semester:

Therapeutics II course (Clinical Pharmacy program)
Drug Interactions course (Clinical Pharmacy program)
Pharmacology I course (Clinical Pharm D program)
Pharmacology II course (General Pharm D program)
Pharmacology II course (Clinical Pharmacy program)
Veterinary Pharmacology course
Toxicology course

Fall Semester:

Clinical Pharmacology course (Clinical Pharmacy program)
Therapeutics I course (Clinical Pharmacy program)
Drug Interactions course (Clinical Pharmacy program)
Pharmacology III course
Physiology & Pathophysiology course (Clinical & General Pharm D programs)

Postgraduate Pharmacology Diploma

Oncology Course
Advanced Applied Pharmacology Course
Clinical Pharmacology Course

Associate Prof in Clinical Pharmacy, Faculty of Pharmacy

Academic Year 2020-2021

Fall Semester:

Clinical Pharmacology course (Clinical Pharmacy program)
Pathophysiology course (Clinical Pharmacy program)
Drug Interactions course
Pharmacology III course
Physiology & Pathophysiology course (Clinical & General Pharm D programs)
Medical Terminology course (Clinical & General Pharm D programs)

Spring Semester:

Pharmacology II course (Clinical Pharmacy program)
First Aid course (Clinical & General Pharmacy programs)
Toxicology course
Veterinary Pharmacology course
Pathophysiology course (Clinical Pharmacy program)
Drug Interactions course (Clinical Pharmacy program)

Academic Year 2019-2020

Fall Semester:

Physiology course (Clinical & General Pharmacy programs)
Pathophysiology course (Clinical Pharmacy program)

Spring Semester:

Pharmacology II course (Clinical Pharmacy program)
Veterinary Pharmacology course

Academic Year 2018-2019

Spring Semester:

Therapeutics II Course (Clinical Pharmacy program)
Pharmacology II Course (Clinical Pharmacy program)

Fall Semester:

Supervisor of Practical Clinical Pharmacology sessions (Clinical Pharmacy program)
Supervisor of Practical Physiology session

Academic Year 2023-2024

Spring semester:

Pharmacoeconomics (King Salman International University)
Hospital Pharmacy (King Salman International University)
Community Pharmacy (Egyptian Chinese University)
Drug Information (Egyptian Chinese International University)

Fall Semester:

Clinical Pharmacy & Therapeutics I (Sinai University)
Clinical Pharmacy & Therapeutics II (Sinai University)

Academic Year 2022-2023

Spring Semester:

Community Pharmacy (Delta University)
Clinical Pharmacy & Therapeutics II (Delta University)
Pharmacoeconomics (King Salman International University)
Pharmacology II (King Salman International University)

Academic Year 2020-2021 (Heliopolis University)

Fall Semester:

Pharmacy Practice II course

Spring Semester:

Pharmacy Management course

Academic Year 2019-2020 (Heliopolis University)

Fall Semester:

Pharmacy Practice II course
Pharmacy Skills course
Pharmacy Management course

Spring Semester:

Pharmacy skills course
Pharmacy Management course

Academic Year 2018-2019 (Heliopolis University)

Fall Semester:

Pharmacotherapy III course
Pharmacy Practice II course

Spring Semester:

Pharmacy Management course

Summer Semester:

Pharmacotherapy III course

1.3.1.2. Teaching Activities at The University of Manchester

2014-2018	Clinical Pharmacology 1
(Lab	Clinical Pharmacology 2
Demonstrator)	Clinical Biochemistry
	Clinical Microbiology
	Molecular Biology (Foundation year)
	Molecular Genetics

1.4. Previous Employment

2014-2018	Full time Ph.D. student, Centre for Occupational and Environmental Health, Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, UK.
2014-2017	Demonstrator (Teaching Assistant), Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, UK.

2012-2014	Research Associate, Pharmacology and Toxicology Department, National Organisation for Drug Control and Research (NODCAR), Egypt.
2006-2011	Research Assistant, Pharmacology and Toxicology Department, National Organisation for Drug Control and Research (NODCAR), Egypt.
2004-2006	Quality Control Specialist, National Organisation for Drug Control and Research (NODCAR), Egypt.
2003-2004	Teaching Assistant (TA) Fellow, Clinical Pharmacy, Pharmacology and Toxicology Department, Sixth of October University, Sixth of October City, Egypt.

1.5. Active Grants

Nov.2019 – April 2021 The Internal Research England GCRF QR Fund.

1.6. Awards and Esteem Indicators

April 2018	<u>Best oral presentation prize</u> , The Egyptian Society of Pharmacology and Experimental Therapeutics (ESPET) 57th conference, The British University in Egypt (BUE), Cairo, Egypt.
Nov. 2017	Faculty of Biology, Medicine and Health Doctoral Academy conference support fund award, The University of Manchester, Manchester, UK.
June 2017	<u>Best oral presentation prize</u> , Division of Population Health, Health Services Research and Primary Care Away Day (May 2017), The University of Manchester, Manchester, UK.
Jan. 2014 – Jan. 2018	Full Ph.D. Scholarship, The University of Manchester, Manchester, UK.

1.7. Supervising Defended Projects / Thesis:

The role of estrogen hormone and/or its receptor(s) in the development and progression of chemically induced hepatocellular carcinoma in rats (Ph.D.).

1.8. Current Research Projects

- 1- A Novel synthetic Coumarin-Thiazolidine Hybrid as Potential Anticancer Agent in MDA Triple Negative Breast Cancer Cells through Dual inhibition of PI3K/AKT/mTOR & MAPK/ERK Pathway and Apoptosis Induction
- 2- Discovery of novel Quinoxaline Derivatives as potential Anticancer agents on Breast Cancer MCF-7 cells

1.9. Other Educational Activities

Actively participating in courses and e-labs development of Online Pharmacogenomics and Personalized Medicine Postgraduate Program (OPPM), co-funded by Erasmus+ Programme of the European Union, in collaboration with Alexandria University, Nile University, American University in Beirut, Beirut Arab University, 57357 Children Hospital, Magdy Yacoub Foundation (Grant No. 617303-EPP-1-2020-1-EG-EPPKA2-CBHE-JP).

1.10. Communities Activities

May 2022	Member of scientific committee, The 14 th International Phytocosmetics and Phytotherapy Congress (IPPC Egypt 2022).
2021- Present	Member, International Society for Phytocosmetics Science [ISPS].
2021- Sep. 2023	Member, Pharmacology Committee at Egyptian Drug Authority.
2014 – Present	Member, United Kingdom Environmental Mutagen Society.
2016 – Present	Member, American Association of Cancer Research (AACR). Member ID: 375701
2016 – Present	Member, European Association of Cancer Research (EACR).
2013 – Present	Member, The Egyptian Society of Pharmacology and Experimental Therapeutics (ESPET).
2003 – Present	Member, Egyptian Pharmaceutical Society.

2. Research and Academic/Professional Standing

9/2018 – Present: Lecturer in Pharmacology - Faculty of Pharmacy - Fayoum University (Egypt).

Teaching responsibilities include:

- Develop and deliver courses to students in the specified discipline areas of study, considering and aiming to achieve the three (3) fundamental university standards: Teaching, Research, and Services.
- Evaluate and monitor individual student progress and provide feedback to sustain student success.
- Conduct high-quality research in and publish research outcomes in reputable journals and conferences.
- Pursuing research in relevant biomedical sciences and/or pedagogy, organize and manage instructional resources, course outlines, and community networks.
- Supporting and expanding curricular development in Pharmacology in consonance with other basic medical science subjects and linking to clinical sciences.
- Actively seek out methods, procedures, and resources to best achieve course objectives.
- Support and participate in accreditation initiatives.
- Maintain relationships with students that are conducive to learning.
- Evaluate student progress/achievement and is responsible for the timely overall assessment of the student's work within assigned courses.
- Mentor teaching assistants.
- Participate in department and faculty meetings.
- Assisting with student recruitment, interviews, and academic counselling sessions.
- Providing supervision for research Ph.D./master students and providing laboratory training to them.
- High capacity to develop pedagogical innovations and to manage a study program.
- Submitting grant applications to support the research and administering grants have been awarded.
- Excellent communication skills (oral, written, presentation)
- Proficiency in English (oral and written)

Jan. 2014 – Jan. 2018 **Full time Ph.D. student (Molecular Epidemiology)**
Laboratory techniques expertise include:

- Protein expression and purification
- Radioisotopic assay for determination of proteins functional activity
- Western blot
- Enzyme-linked Immunosorbent Assay (ELISA)
- Immunoslot blot
- Polyacrylamide gel electrophoresis
- Agarose gel electrophoresis
- Restriction endonuclease site deprotection assay
- Electrophoretic mobility shift assay
- Plasmid purification
- DNA extraction
- In-solution protein digestion
- In-gel protein digestion
- Proteomics mass spectrometric analysis (MALDI-TOF MS analysis)
- Peptide Mass Fingerprint (PMF) search *via* Mascot search tool
- Competition assays
- Cell culture

Jan. 2014 – Dec. 2017 Demonstrator (Teaching Assistant), Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, UK.

Main duties included assisting with practical laboratory sessions, facilitating teaching with groups of undergraduate students, effectively assisting students in their learning so as to fully understand the premise behind the practical as well as marking lab reports (either pre or post lab assignments).

Nov. 2006 – Dec. 2013 Research Assistant/Associate, Pharmacology and Toxicology Department, National Organisation for Drug Control and Research (NODCAR), Egypt.

Duties involved planning and managing research projects to identify uncovered areas of research as well as monitoring treatment response and efficacy outcomes. In addition, duties included writing up and disseminating research findings *via* networks and appropriate publications.

Nov. 2005 – 2011 M.Sc. Student, Ain Shams University, Egypt.

Research work involved studying the possible neurotoxicological effects of certain investigated neurotoxins and then evaluating the potential protective effect of a newly registered treatment *versus* standard ones.

May 2004 – 2006 Quality Control Specialist, National Organisation for Drug Control and Research (NODCAR), Egypt.

Responsibilities are summarized as conducting a wide range of laboratory assays or methodologies to test/investigate drug products, pharmaceutical dosage forms and medicinal devices to ensure safety, efficacy, potency and compliance with regulatory requirements of such products prior to being launched into Egyptian pharmaceutical market.

3. Journal and Conference Publications

3.1. Journal Publications

1- **Abd-Elhady RM**, Elsheikh AM, Khalifa AE. Anti-amnestic properties of Ginkgo biloba extract on impaired memory function induced by aluminum in rats. *Int J Dev Neurosci*. 2013 Nov;31(7):598-607. doi: 10.1016/j.ijdevneu.2013.07.006. Epub 2013 Aug 8.

2- Abstract 4242: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O⁶-alkylguanine adducts in oligodeoxyribonucleotides, temozolomide modified calf thymus DNA and human colorectal cancer DNA. **Rasha Abdelhady Mohamed Abdelhady**, Perdita E. Barran, David M. Williams, Andrew C Povey. *Cancer Research* 77(13 Supplement):4242-4242. DOI: 10.1158/1538-7445.AM2017-4242.

3- Zohny MH, Cavalu S, Youssef ME, Kaddah MMY, Mourad AAE, Gaafar AGA, El-Ahwany E, Amin NA, Arakeep HM, Shata A, Saleh S, Hafez MM, Elazab ST, **Abdelhady R**, El Shahat RM, Yahya G, Saber S. Coomassie brilliant blue G-250 dye attenuates bleomycin-induced lung fibrosis by regulating the NF-κB and NLRP3 crosstalk: A novel approach for filling an unmet medical need. *Biomed Pharmacother*. 2022 Apr; 148:112723. doi: 10.1016/j.biopha.2022.112723. Epub 2022 Feb 21. PMID: 35202914.

4- El-Dydamony NM, Abdelnaby RM, **Abdelhady R**, Ali O, Fahmy MI, R Fakhr Eldeen R, Helwa AA. Pyrimidine-5-carbonitrile based potential anticancer agents as apoptosis inducers through PI3K/AKT axis inhibition in leukaemia K562. *J Enzyme Inhib Med Chem*. 2022 Dec;37(1):895-911. doi: 10.1080/14756366.2022.2051022. PMID: 35345960; PMCID: PMC8967206.

5- Abdelnaby RM, Rateb HS, Ali O, Saad AS, Nadeem RI, Abou-Seri SM, Amin KM, Younis NS, **Abdelhady R**. Dual PI3K/Akt Inhibitors Bearing Coumarin-Thiazolidine Pharmacophores as Potential Apoptosis Inducers in MCF-7 Cells. *Pharmaceuticals (Basel)*. 2022 Mar 31;15(4):428. doi: 10.3390/ph15040428. PMID: 35455425; PMCID: PMC9027131.

6- Zohny MH, Alrouji M, Alhajlah S, AlOmeir O, Ewees MGE, Ghaffar DMA, El Adle Khalaf N, Mohammed OA, Abdeldaiem MSI, El-Bahouty WB, Elrabat A, Zakaria S, Abdel-Nasser ZM, Haleem AA, El-Gharbawy DM, **Abdelhady R**, Kaddah MMY, Shata A, Saber S. Diacetylrhein, an anthraquinone antiarthritic agent, suppresses dextran sodium sulfate-induced inflammation in rats: A possible mechanism for a protective effect against ulcerative colitis. *Biomed Pharmacother*. 2022 Oct; 154:113651. doi: 10.1016/j.biopha.2022.113651. Epub 2022 Sep 5. PMID: 36081290.

7- Sameh Saber, Eslam Elsayed; Amir Abdelhamid; Ahmed Mourad; Manal Hamouda; Amr Elrabat; Sahar Zakaria; Amira Haleem; Sherin Mohamed; Rehab Elgharabawy; Nesreen Morsy; Noura Khalaf; Osama Mohamed; Waleed El-Bahouty; Sally Mostafa; **Rasha Abdelhady**; Omneya Galal; Zeinab ElSaid; Galal Yahya; Ahmed Shata; Mahmoud Youssef. Innovative challenge for the inhibition of hepatocellular carcinoma progression by combined targeting of HSP90 and STAT3/HIF-1α signaling. *Biomedicine & Pharmacotherapy*, Volume 158, 2023, 114196, ISSN 0753-3322, <https://doi.org/10.1016/j.biopha.2022.114196>.

8- Khalil AF, El-Moselhy TF, El-Bastawissy EA, **Abdelhady R**, Younis NS, El-Hamamsy MH. Discovery of novel enasidenib analogues targeting inhibition of mutant isocitrate dehydrogenase 2 as antileukaemic agents. *Journal of enzyme inhibition and medicinal chemistry*, 2023;38(1):2157411. doi:10.1080/14756366.2022.2157411.

9- **R. Abdelhady**, S. Cavalu, S. Saber, R. Elmowafy, N.E. Morsy, S. Ibrahim, M.S.I. Abdeldaiem, M. Samy, M.A. Abd-Eldayem, A. Shata, R.M. Elgharabawy, Mirtazepine, an atypical antidepressant, mitigates lung fibrosis by suppressing NLRP3 inflammasome and fibrosis-related mediators in endotracheal bleomycin rat model, *Biomedicine & Pharmacotherapy*. 161 (2023). <https://doi.org/10.1016/j.biopha.2023.114553>.

161 (2023). <https://doi.org/10.1016/j.biopha.2023.114553>.

- 10- **Rasha Abdelhady**, Nancy S. Younis, Omaima Ali, Samah Shehata, Rabab H. Sayed & Rania I. Nadeem. Cognitive enhancing effects of pazopanib in D-galactose/ovariectomized Alzheimer's rat model: insights into the role of RIPK1/RIPK3/MLKL necroptosis signaling pathway. *Inflammopharmacol* (2023). <https://doi.org/10.1007/s10787-023-01269-y>
- 11- **Rasha Abdelhady**, Sameh Saber, Mustafa Ahmed Abdel-Reheim, Mohannad Mohammad S. Alamri, Jaber Alfaifi, Masoud I. E. Adam, Lobna A. Saleh, Azza I. Farag, Elsayed A. Elmorsy, Hend S. El-wakeel, Ahmed Doghish, Heba A. Ramadan and Osama A. Mohammed. Unveiling the therapeutic potential of exogenous β -hydroxybutyrate for chronic colitis in rats: Novel insights on autophagy, apoptosis, and necroptosis. *Frontiers in Pharmacology*. 2023;14., DOI: 10.3389/fphar.2023.1239025.
- 12- Abdel-Hamid MS, Mansour AM, Hassan MH, **Abdelhady R**, Elsadek BEM, El-Sayed EM, Salama SA. Estrogen Attenuates Diethylnitrosamine-Induced Hepatocellular Carcinoma in Female Rats via Modulation of Estrogen Receptor/FASN/CD36/IL-6 Axis. *Biol Pharm Bull*. 2023;46(11):1558-1568. doi: 10.1248/bpb.b23-00342. PMID: 37914358.
- 13- **Rasha Abdelhady**, Pattama Senthong, Claire E. Eyers, Onrapak Reamtong, Elizabeth Cowley, Luca Cannizzaro, Joanna Stimpson, Kathleen Cain, Oliver J. Wilkinson, Nicholas H. Williams, Perdita E. Barran, Geoffrey P. Margison, David M. Williams, and Andrew C. Povey. Mass Spectrometric Analysis of the Active Site Tryptic Peptide of Recombinant O6-Methylguanine-DNA Methyltransferase Following Incubation with Human Colorectal DNA Reveals the Presence of an O6-Alkylguanine Adductome. *Chemical Research in Toxicology Article ASAP*. DOI: 10.1021/acs.chemrestox.3c00207.
- 14- **Rasha Abdelhady**, Osama A. Mohammed, Ahmed S. Doghish, Rabab S. Hamad, Mustafa Ahmed Abdel-Reheim, Mohannad Mohammad S. Alamri, Muffarah Hamid Alharthi, Jaber Alfaifi, Masoud I. E. Adam, Abdullah Hassan Alhalafi, Nahid A. Mohammed, Adamu Imam Isa, Sameh Abdel-Ghany, Mohammed A. Attia, Elsayed A. Elmorsy, Tohada M. AL-Noshokaty, Yousra Nomier, Walaa A. El-Dakroury, Sameh Saber. Linagliptin, a DPP-4 inhibitor, activates AMPK/FOXO3a and suppresses NF κ B to mitigate the debilitating effects of diethylnitrosamine exposure in rat liver: Novel mechanistic insights. *FASEB J*. 2024 Feb 29;38(4):e23480. doi: 10.1096/fj.202302461RR. PMID: 38354025.
- 15- Elmorsy EA, Saber S, Kira AY, Alghasham A, Abdel-Hamed MR, Amer MM, Mohamed EA, AlSalloom A A, Alkhamiss AS, Hamad RS, Abdel-Reheim MA, Ellethy AT, Elsis HA, Alsharidah M, Elghandour SR, Elnawawy T, **Abdelhady R**. Hedgehog signaling is a promising target for the treatment of hepatic fibrogenesis: a new management strategy using itraconazole-loaded nanoparticles. *Front Pharmacol*. 2024 May 14;15:1377980. doi: 10.3389/fphar.2024.1377980. PMID: 38808257; PMCID: PMC11130383.
- 16- **Rasha Abdelhady**; Nancy S. Younis; Amal M. Ghanem; Heba N. Shalaby; Dalia A. Nawwar; Rabab Sayed. Dulaglutide alleviates tacrolimus-induced nephrotoxicity in rats via modulating miR-22/HMGB-1/TLR4/MyD88/NF- κ B trajectory (Manuscript Number: EJP-68328).
- 17- **Rasha Abdelhady**, Nancy S Younis, Omaima Ali, Samah Shehata, Rabab H Sayed, Rania I. Nadeem. Pazopanib mitigates bleomycin-induced lung fibrosis via modulation of JNK and P38 cascades. (Manuscript has already been submitted to Life Sciences and under review, Manuscript Number: LFS-D-23-00197)
- 18- **Abdelhady R**, Margison G, Barran P, Williams D, Povey A. Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O⁶-alkylguanine adducts in oligodeoxyribonucleotides (Manuscript will be submitted to Nucleic Acid Research).
- 19- **Abdelhady R** and Fekry E. Modulation of TLR4 and upregulation of HO-1 & PPAR gamma by Pioglitazone ameliorates Methotrexate-induced liver damage (Manuscript's under review).

3.2. Conference Abstracts

The 14th International Phytocosmetics and Phytotherapy Congress (IPPC Egypt 2022), Fayoum, Egypt, May 2022.

Poster presentation: Dual PI3K/Akt Inhibitors Bearing Coumarin-Thiazolidine Pharmacophores as Potential Apoptosis Inducers in MCF-7 Cells.

5th FUE International Conference of Pharmaceutical Sciences (5th FUE-ICPS 2019), Cairo, Egypt, January 2019.

Oral presentation: Alkylating agents exposure and human colorectal cancer risk.

The Egyptian Society of Pharmacology and Experimental Therapeutics (ESPET) 57th conference, The British University in Egypt (BUE), Cairo, Egypt, April 2018.

Oral presentation (Best Oral Presentation Prize): Initial characterisation of the alkyl DNA adductome in human colorectal DNA by mass spectroscopic analysis of MGMT tryptic peptides.

National Cancer Research Institute (NCRI) Cancer Conference, Liverpool, November 2017.

Poster presentation: Initial characterisation of the alkyl DNA adductome in human colorectal DNA by mass spectroscopic analysis of MGMT tryptic peptides.

Division of Population Health, Health Services Research and Primary Care Away Day, Manchester UK, June 2017.

Oral presentation (Best Oral Presentation Prize): Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in temozolomide modified calf thymus DNA and human colorectal cancer DNA.

Faculty of Biology, Medicine and Health Doctoral Academy Ph.D. conference, Manchester UK, May 2017.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides and Calf Thymus DNA treated with temozolomide.

American Association of Cancer Research Annual Meeting, Washington DC, USA, April 2017.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides, temozolomide modified calf thymus DNA and human colorectal cancer DNA.

Centre of Occupational and Environmental Health Lane Lecture and Symposium, Manchester UK, October 2016.

Oral presentation: Alkylating agent exposure and human colorectal cancer risk.

Centre of Occupational and Environmental Health Lane Lecture and Symposium, Manchester UK, October 2016.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides and Calf Thymus DNA treated with temozolomide.

United Kingdom Environmental Mutagenesis Society Conference 2016 (UKEMS) Annual Meeting, London UK, June 2016.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides and Calf Thymus DNA treated with temozolomide.

10th UK and Ireland Occupational and Environmental Epidemiology Conference, Buxton UK, April 2016.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides.

Institute of Population Health Showcase, Manchester UK, March 2016.

Poster presentation: Mass spectroscopic analysis of MGMT tryptic peptides allows

detection of O^6 -alkylguanine adducts in oligodeoxyribonucleotides.

Centre of Occupational and Environmental Health Lane Lecture and Symposium, Manchester UK, November 2015.

Poster presentation: Detection of O^6 -alkylguanine adducts by mass spectroscopic analysis of MGMT.

4. Training courses, modules, and workshops

- • E-learning training (5-day training, e-Learning Competence Centre).
- • Electronic exams workshop.
- • Introduction to Research.
- • Research Ethics study day.
- • Maintaining Standards in Research.
- • Academic and Scientific writing tutorials.
- • Thesis Formatting.
- • Research Ethics Application: NHS
- • Beginners reference management with Endnote
- • First Year: Continuation Report and Viva Success
- • Micro Teaching
- • Graduate Teaching Assistance
- • An Introduction to Academic Writing
- • Academic Writing: Structure, Sources and Style
- • Academic Writing: Proofreading
- • Introduction to Effective Presentation Skills
- • Introduction to Mass Spec
- • Compressed gas workshop
- • Getting on with your academic writing
- • Critical analysis of research papers
- • First Year: Introduction to Research Speed Ph.D. and MD Course
- • PGR Student Health and Safety Induction Mandatory Module 1
- • PGR Student Health and Safety Induction Module 2 – Working in labs and Workshops
- • PGR Student Health and Safety Induction Module 3 - Chemical Risk Assessment
- • PGR Student Health and Safety Induction Module 4 - Biosafety
- • PGR Student Health and Safety Induction Module 5 - Off-campus work (Including fieldwork)
- • Procure to Pay - Requisitioner eTraining - R12
- • iBT TOEFL international (score 104).
- • International Computer Driving License

5. Names and Addresses of Referees

First Reference

Name: Prof. Gouda Kamel Helal.

Position: President of Heliopolis University and Dean of Faculty of Pharmacy, Heliopolis University.

Address: Faculty of Pharmacy, Heliopolis University, 3 Cairo-Belbeis Desert Road, P.O. Box 3020 El Salam, 11785 Cairo, Egypt.

Telephone number: +2 (0) 01229400009

E-mail address: gouda.kamel@hu.edu.eg

Second Reference

Name: Prof. Amani Emam Khalifa.

Position: Professor of Pharmacology and Toxicology. Former Vice Dean and Acting Dean of Faculty of Pharmacy and Advisor to the President of Ain Shams University (ASU) for the New Non-profit ASU.

Address: Faculty of Pharmacy, Ain Shams University, African union organization street, Abbaseya, Cairo Egypt. P.O.B: 11566

Telephone number: +2 (0) 01001020600

E-mail address: aekhalifa@hotmail.com

Third Reference

Name: Prof. Osama Badary.

Position: Vice Dean Postgraduate Studies and Research, Acting Head of clinical Pharmacy Practice Department and Supervisor of The Environmental and Community Services, Faculty of Pharmacy, British University in Egypt (BUE).

Address: Faculty of Pharmacy, British University in Egypt (BUE), El Sherouk City, Suez Desert Road, Cairo Egypt.

11837 - P.O. Box 43

Telephone number: +2 (0) 01064112110

E-mail address: obadary@yahoo.com

Fourth Reference

Name: Prof. Mona Hetta.

Position: Dean of Faculty of Pharmacy Nahda University, Former Dean of Faculty of Pharmacy Fayoum University.

Address: Faculty of Pharmacy, Nahda University, Beni Sweif, Egypt.

Telephone number: +2 01001623758

E-mail address: monahetta1@gmail.com, mhm07@fayoum.edu.eg

Fifth Reference

Name: Dr Andrew C Povey.

Position: Reader in Molecular Epidemiology, Centre for Occupational and Environmental Health, University of Manchester.

Address: Centre for Occupational and Environmental Health

Faculty of Biology, Medicine and Health

University of Manchester

4th Floor, Block C, Ellen Wilkinson Building,

Oxford Road, Manchester, M13 9PL, UK.

Telephone number: + 44 (0)161 275 5232

E-mail address: andy.Povey@manchester.ac.uk

Sixth Reference

Name: Prof. Perdita Barran.

Position: Chair of Mass Spectrometry, Director of Michael Barber Centre for Collaborative Mass Spectrometry.

Address: Michael Barber Centre for Collaborative Mass Spectrometry,

Manchester Institute for Biotechnology,

The University of Manchester,

131 Princess St, Manchester, M1 7DN, UK.

Telephone number: +44 (0) 161 275 0256

E-mail address: perdita.barran@manchester.ac.uk

Seventh Reference

Name: Prof. Geoffrey P Margison.

Position: Honorary Professor, Centre for Occupational and Environmental Health.

Address: Centre for Occupational and Environmental Health,

Faculty of Biology, Medicine and Health,

University of Manchester

Stopford Building, 2nd Floor, Room 2.828.

Oxford Road, Manchester, M13 9PL, UK.

Telephone number: +44 (0) 161 275 5689

E-mail address: gmargison@manchester.ac.uk

Eighth Reference

Name: Dr Jill Stocks.

Position: lecturer in Public Health, Division of Population Health, Health Services Research & Primary Care (L5).

Address: Division of Population Health, Health Services Research & Primary Care, School of Health Sciences, Faculty of Biology, Medicine and Health,

University of Manchester,

7th Floor, Williamson Building,

Oxford Road, Manchester, M13 9PL, UK.

Telephone number: +44 (077) 09917456, E-mail address: Jill.Stocks@manchester.ac.uk

6. Teaching Statement

Dear Professor/

I am delighted to have the good fortune to send you my résumé to apply for the position of Associate Prof. in Pharmacology, at your reputable university. I am extremely interested in obtaining a faculty position at your world-class university, where I can contribute to its focus on undergraduate as well as postgraduate education, continue my research on concrete structures, and lead campus and professional service activities, and I wish you will give my candidacy strong consideration.

As my *Curriculum Vitae* demonstrates, I have been awarded a **Ph.D. degree in Pharmacology, Faculty of Biology, Medicine and Health, University of Manchester, UK, in January 2018**. Over the past five years, I have been filling the role of academic and research lecturer in Pharmacology, Faculty of Pharmacy, at Fayoum University. **Regarding teaching experience, I have five years' experience in five different universities which are Fayoum University, Heliopolis University, Sinai University, Delta University as well as King Salman International University at which I have worked as an lecturer in Pharmacology since 2018 until the current year.** I respectfully submit this letter of application, for I believe my valuable teaching experience partnered with my research skills make me well qualified to meet the needs of your elite university.

As per my academic teaching experience, I have distinctive experience in undergraduate and postgraduate teaching as I have been a lecturer in three public and private Egyptian universities in addition to King Salman International University where I got an outstanding opportunity to participate in the design and teaching of several courses as detailed previously. My professional experience as an academic lecturer improved my teaching skills and enhanced my proficiency in the use of learning technologies. I pride myself on creating an environment that accommodates the needs of undergraduate students while still promoting high level of critical thinking mainly *via* group discussions and class activities.

Additionally, my teaching experience includes postgraduate teaching as I have participated in development as well as teaching of Pharmacology Postgraduate Diploma Courses, Faculty of Pharmacy, Fayoum University. Moreover, I have participated in the preparation of the postgraduate studies bylaw, Faculty of Pharmacy, Fayoum University.

In addition, I have immensely participated in courses and e-labs development of Online Pharmacogenomics and Personalized Medicine Postgraduate Program (OPPM), co-funded by Erasmus+ Programme of the European Union, in collaboration with Alexandria University, Nile University, American University in Beirut, Beirut Arab University, 57357 Children Hospital, Magdy Yacoub Foundation (Grant No. 617303-EPP-1-2020-1-EG-EPPKA2-CBHE-JP).

OPPM program is a postgraduate program that is designed would award either two-year master's degree or one year diploma in Personalized Medicine.

Notably, I am a member of the Pharmacology Committee at the Egyptian Drug Authority and a member of a number of international professional and scientific associations including American Association of Cancer Research (AACR), European Association of Cancer Research (EACR), United Kingdom Environmental Mutagen Society and International Society for Phytocosmetics Science [ISPS].

Regarding awards and prizes, I was awarded a full Ph.D. scholarship funded by the Ministry of Higher Education. Then I have received a two-year research grant funded by the Internal Research England GCRF QR Fund. Moreover, I have received two best oral presentation prizes that were awarded by Division of Population Health, Health Services Research and Primary Care Away Day (May 2017), The University of Manchester, Manchester, UK and Division of Population Health, Health Services Research and Primary Care Away Day (May 2017), The University of Manchester, Manchester, UK. Recently, I have received excellence in scientific publications award from Fayoum University.

During my graduate training, I was also fortunate enough to have served as a teaching assistant (lab demonstrator) and occasionally substitute lecturer, at University of Manchester as indicated in a letter issued form University of Manchester attached to this C.V.

My academic training and five years of experience working as an academic lecturer in Pharmacology prepare me to be an effective instructor and researcher in your department. These experiences have built my confidence and an interest in teaching, and I look forward to the opportunity to not only teach existing courses, but also work to develop new ones.

I possess strong leadership, communication and analytical capabilities that I leverage with an intense work ethic and a commitment to teamwork. I understand that your group is enjoying outstanding development and I'd value the opportunity to contribute to this development by surpassing key objectives of addition to knowledge. My strong orientation and bias towards teaching combined with my strong scientific background plus laboratory and technical experience would serve to respond well to the post needs, requirements and concerns.

Eventually, I wish I will have the opportunity to further discuss your requirements in the weeks to come. Enclosed please find my *curriculum vitae* and reference letters for your kind attention. If you require any additional materials or more letters of recommendation, I am happy to supply it. Thank you very much for your consideration.

Looking forward to your positive response,
Sincerely, Dr Rasha Abdelhady

7. Research Statement

As my *Curriculum Vitae* shows, I have been awarded a Ph.D. degree in Pharmacology from Faculty of Biology, Medicine and Health, University of Manchester, UK, in January 2018. Fortunately, I have spent four years of my career in pursuing a Ph.D. degree in one of the world's top 30 universities "Faculty of Biology, Medicine and Health, University of Manchester, UK".

In the course of my Ph.D. research, I have been the lead scientist on a unique Ph.D. project, **in molecular cancer research**, that required both development and performance of a truly interdisciplinary science. My work mainly focused on investigating **the role of pro-mutagenic and carcinogenic DNA alkylation in human colorectal cancer via examining both human normal versus tumour colorectal DNA**. My Ph.D. project involved both development as well as application of a wide range of experimental and laboratory techniques including **numerous molecular, biochemical, radiochemical and immunological methodologies in addition to mass spectroscopic analysis of peptides**, as detailed in my C.V.

Versatility of learned techniques and acquired laboratory skills equipped me with the required technical expertise and scientific knowledge to manage future research projects and to implement such novel techniques within the emerging research group. Additionally, I was responsible for obtaining the ethical approval for my Ph.D. project (Health Research Authority - East Midlands - Derby Research Ethics Committee; REC reference: 15/EM/0505) permitting collection, storage as well as analysis of human colorectal samples that necessitated compliance with legislative requirements regarding data protection and confidentiality.

Being the lead scientist on my Ph.D. research project, that was not straight forward, was highly beneficial as it enhanced my critical thinking, creativity, troubleshooting and intellectual independence. Moreover, such crucial experience qualified me to manage and/or lead research projects of increasing complexity and challenge as it facilitated my ability to construct the appropriate research strategies for tackling different types of novel research questions using different methodologies. Ultimately, demonstrated technical expertise highlights my strong potential for providing supervision for research Ph.D. students.

Being a member of the research community of such leading university created the ideal setting to establish collaborations and networking with key stakeholders in cancer research and helped to keep myself up to date on the cutting-edge findings of the molecular cancer research. Such networking would definitely provide a platform for future collaboration with the

preeminent cancer scientists in the UK that would facilitate research and funding opportunities in addition to increasing the visibility of my future innovative research.

After completing my Ph.D., I was awarded a research grant funded by “**The internal Research England GCRF QR Fund.**” That fund was used for completing my Ph.D. work on human colorectal cancer tissue and the paper emerging from this work has been submitted for publication by my research group in the University in Manchester and it will be published very soon.

Notably, following the years of my Ph.D., my postdoctoral research work tackled various health disorders including cancer (hepatocellular carcinoma, leukemia and breast cancer), idiopathic pulmonary fibrosis (IPF), ulcerative colitis, Alzheimer’s disease and liver fibrosis. I have successfully published ten research articles in highly ranked Q1 Journals and two studies were already submitted to “Life Sciences, Manuscript Number: LFS-D-23-00197” and under review. In addition, four manuscripts are now being written and proofread then will be submitted within couple of weeks.

Throughout these studies, I and my research team have focused on developing novel therapeutic modalities to such life-threatening disorders such as breast cancer, leukemia and hepatocellular carcinoma. Significantly, three of my published studies have displayed the development of novel synthetic pharmacophores that target dysregulated signaling cascades in hormone receptor positive breast cancer and leukemia. Those studies establish a platform for the development of targeted cancer therapies sparing the severe systemic toxicity of anticancer chemotherapeutic drugs.

Similarly, IPF represents a major cause of death worldwide with no definite cure. Therefore, my research focused on developing novel pharmacological treatments through identification and modulation of the abnormally hyperactivated signaling pathways. Successfully, two studies have been already published in 2022 & 2023 in Journal of “Biomedicine and Pharmacotherapy” whilst one more study is under review in “Life Sciences, Manuscript Number: LFS-D-23-00197”.

As Previously stated, postdoctoral research projects were both *in-vitro* as well as *in-vivo* studies that involved the implementation and application of a wide range of laboratory techniques including ELISA, Western blot, Immunohistochemistry, Immunofluorescence, Histopathological examination, cell culture, cell cycle analysis and apoptosis percentage.

Additionally, one of my current postdoctoral research works shed light on chemotherapy-induced nausea and vomiting in a clinical study that is conducted in collaboration with

Chemotherapy Unit, Fayoum University Hospital, Fayoum University.

Remarkably, my postdoctoral research work involved collaboration with academic researchers from national public (Cairo, Tanta, Mansoura and Port Said), national private (Delta, Sinai, Heliopolis, and Misr for Science & Technology) as well as international universities (King Faisal University and University of Oradea).

As per thesis supervision, I am currently a member of the supervisory team of a Ph.D. student who finished the practical part and writing up his thesis. The Ph.D. thesis mainly aims at exploring the association between estrogen hormone and/or estrogen receptors and hepatocellular carcinoma in *in-vivo* rat model. In addition, I am a member of the supervisory team of master students.

In regard to my future research projects, I have an interesting research proposal that focuses on the discovery of novel therapeutic strategies for triple negative breast cancer that is considered the most aggressive and refractory type of breast cancer. In addition, future work involves mechanistic studies that aim at developing novel pharmacological agents for mitigating globally challenging health problems including methotrexate-induced liver fibrosis, Alzheimer's disease as well as chemotherapy-induced nephrotoxicity followed by unraveling the molecular mechanisms underlying the observed effects. Future research proposals will be submitted to Science and Technology Development Fund (STDF) Egypt and L'Oréal Women in Science organizations for obtaining the required fund.

Finally, I believe this statement alongside my publication record would reflect my passion and remarkable research potentials. In addition, I wish I would have a considerable opportunity to complete my research plans as a member of your outstanding university.

Looking forward to your positive feedback,

Sincerely, Dr Rasha Abdelhady