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Education

Pharmaceutical Bioinformatics certificate from the Department of Pharmaceutical Biosciences, Uppsala University, Sweden (Grade: Pass with Distinction (The highest grade) 2011).

Ph.D. of Pharmaceutical Sciences, Department of Pharmaceutics, Faculty of Pharmacy, Ain Shams University (2010) (Channel student that spent two years at the department of Pharmacy and Pharmacology, University of Bath, UK).

Masters of Pharmaceutical Sciences, Departemt of Pharmaceutics, Faculty of Pharmacy, Ain Shams University (2006).

Bachelor of Pharmacy, Faculty of Pharmacy, Ain Shams University, class of May 2000.
Grade: Excellent with honor.
Position: 15Th of my class.
Schools: K.I.S. Language school / Cleopatra (X-Woodley).

Work Experience

Associate Professor - Department of Pharmaceutics and Industrial Pharmacy – Faculty of Pharmacy – Ain Shams University – Cairo – Egypt (Dec 2015 till current).

Assistant Professor - Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Ain shams university- Cairo – Egypt (2010- 2015).

Vice coordinator of the Drug Design Program (DDP) (Credits hours system program) – Faculty of Pharmacy – Ain Shams University (Feb 2015- till current).

Visiting staff – Leiden Amsterdam Center for Drug Research – Devision of Drug Delivery Technology – Leiden University – Leiden – The Netherlands (April 2013 – till current).

Collaborative scientist with the Department of Pharmacy and Pharmacology , Bath University, England, UK (2010 till current).

Part timer lecturer at the department of Pharmaceutical Technology - German University in Cairo (GUC) (2011-till current).

Part timer lecturer in Bioinformatics masters credit hours program (Nanobiotechnology) – Faculty of Computer and Information Sciences (CIS) – Ain Shams University – Cairo – Egypt (2015).

Part timer lecturer in Bioinformatics undergraduate credit hours program (Applications of Biotechnology) – Faculty of Computer and Information Sciences (CIS) – Ain Shams University – Cairo – Egypt (2012- till current).

Head of the library committee of the department of Pharmaceutics and Industrial Pharmacy – Faculty of Pharmacy – Ain Shams University (2010 – till current).

Member of the academic advising bureau – Faculty of Pharmacy – Ain Shams University – Cairo – Egypt (March 2015 – till current).

Member of the students affairs board – Faculty of Pharmacy- Ain Shams University (2015- till current).

Member of the cultural affairs board – Faculty of Pharmacy – Ain Shams University at the academic year (2013-2014).

Member of the examination control offices – Faculty of Pharmacy – Ain Shams University (2010- till current).

Post Doctoral Research Scientist – Leiden Amsterdam Center for Drug Research – Devision of Drug Delivery Technology – Leiden University – Leiden – The Netherlands (April 2013 – September 2013).

Ex-head of the administrating committee of the IT unit – Faculty of Pharmacy – Ain Shams University.

Representative of the Department of Pharmaceutics and Industrial Pharmacy in the quality assurance and accreditation unit activity (2010- till current).

Head of the students sports committee at the faculty of Pharmacy, Ain Shams University (2010).

Casual Demonstrator at the Department of Pharmacy and Pharmacology , Bath University, England, UK (2008-2009).

PhD researcher at the department of Pharmacy and Pharmacology (2008-2009)
Bath University, England, UK.

Casual worker at the Learning Support Center, Bath University, England, UK (2008-2009).

Casual Invigilator at the Department of Pharmacy and Pharmacology , Bath University, England, UK (2008-2009).

Lecturer assistant in the Department of Pharmaceutics, Faculty of Pharmacy, Ain shams university (2006-2010).

Worked as a demonstrator in Department of Pharmaceutics, Faculty of Pharmacy, AinShams University (2000-2006).

Casual data reviewer in ITWorx Egypt (2000).

Worked in a community pharmacy in Heliopolis for seven months.

Trained in Pfizer Industrial Company (Production department).

Trained in GlaxoWellcome Industrial Company (Production department).

Grants and Awards

1- The Egyptian government “State encouragement award for medical sciences (Advanced Technological Sciences)” – 2014.

2- Most cited researcher – Faculty of Pharmacy – Ain Shams Univerity – January 2016.

3- Elsevier and ScienceDirect certificate for one of the most downloaded articles in the European Journal of Pharmaceutical Sciences.

4- Future University in Egypt (FUE) prize for best invited speakers in the 3rd international FUE conference (February 9-11, 2015, Cairo, Egypt)

5- Misr Elkheir foundation prize for the best research in 2012 (granted in 2014) for the research:

Applications of NMR in the characterization of pharmaceutical microemulsions.

6- European Science Foundation (ESF) full grant (Conference fees, travel expenses and accommodation) to attend the ESF-Biological surfaces and interfaces conference (30 June – 5 July) at Sant Feliu de Guixols, Catalonia, Spain and present a short talk and a poster entitled:

“Chitosan nanoparticles production: the end of the debate”

7- Misr Elkheir foundation prize for the best research in 2010 (granted in 2011) for the research:

Uptake of microemulsion components into the stratum corneum and their molecular effects on skin barrier function.

8- Misr Elkheir grant to attend an international conference (2012).

9- Awarded a special honoring from Faculty of Computer and Information Sciences for the best practical course (Applications in Biotechnology) for two years (2012-2014).

10- One of the CV owner publications: “Microemulsion formulations for the transdermal delivery of testosterone.” was awarded the rank of the 10th top hottest articles (April to June 2010) and 17th for the period (July to September 2010) in the European Journal of Pharmaceutical Sciences.

11- European Science Foundation (ESF) grant to attend the ESF-UB Conference in Biomedicine: Nanomedicine: Reality Now and Soon, 23-28 October 2010 • Sant Feliu, Spain.

12- Ain Shams University International Publication Awards (Jan 2011-July 2011- Jan 2012- July 2012- Jan 2013- July 2013).

Summary of Qualifications

Communication Skills

Communicated successfully with teaching staff as well as higher management on resolution of numerous problems.

One of the academic organizers of the “**Arab African and API Congress-AAAPCI Congress**” Le Passage – Cairo – Egypt, **17-18 May 2016.**

One of the organization committee of the first international conference on drug discovery, development and pharmacy practice that was held by faculty of pharmacy- Ain Shams University – October 2014.

Member of Association of Ain Shams Scientific Pharmaceutical Students Association (ASSPSA).

President of the Egyptian Student Union in Bath (ESUB) 2009.

One of the three members of the administrative committee organizing the postgraduate scientific seminars (Purely Science of Pleasure-PSP) – Faculty of Pharmacy – Ain Shams University – 2011 till present.

Member of the Information Technology (IT) unit of faculty of Pharmacy – Ain Shams University

Member of the Egyptian Syndicates of Pharmacists.

Special Skill Area

Language

Fluent in spoken and written English language and average French.

Computer

ICDL certified.

Packages and softwares: Microsoft office (Word, Excel, power point), Windows & internet, Prism Graph Pad software, ChemDraw, Reference manager and Carl Zeiss LSM browser, Image J, Bioclipse, ArgusLab, Easy QSAR, Design Expert, XLStat, StatistXL, SAS/JMP and SPSS.

Python programming (Numpy-Scipy-Matplotlib-Biopython).

Bioinformatics databases: PubChem – PDB – emolecules – FASTA – BLAST-molinspiration.

Cheminformatics softwares: ArgusLab v.4.0 , AutoDock vina and Molecular operating Environment (MOE).

Certificate for Google Applications (Google, December 2012).

Successfully developed an e-learning project at the faculty of Pharmacy-Ain Shams University (2011).

Was one of the administrating committee of the IT unit – Faculty of Pharmacy – Ain Shams University (2012).

Teaching Activities

Had shared in teaching several courses in:

- 1- Faculty of Pharmacy, Ain Shams University, Egypt.
- 2- Department of Pharmacy and Pharmacology, Faculty of Science, University of Bath, UK.
- 3- Learning Support Center, University of Bath, UK.
- 4- Department of Pharmaceutical Technology, German University of Cairo (GUC).
- 4- Faculty of Computer and Information Sciences, Ain Shams University.

The taught courses included:

- 1- Pharmacy Orientation
- 2- Pharmaceutics I (Solutions and oral dosage forms)
- 3- Pharmaceutics II (Semi-solid dosage forms, topical and transdermal delivery systems, aerosols and pulmonary delivery).
- 4- Pharmaceutics III (Solid dosage forms: Tablets and Capsules).

- 5- Physical Pharmacy
- 6- Pharmacy Practice
- 7- Professional Pharmacy (Extemporaneous preparations and OTC)
- 8- Pharmacokinetics (PhD)
- 9- Medicines design
- 10- Natural products and metabolism
- 11- Pharmaceutical Technology (Industrial Pharmacy)
- 12- Dosage form Design
- 13- Kinetics and Stability
- 14- Applications of Biotechnology (Undergraduate, Bioinformatics, Computer Science)
- 15- Nanobiotechnology (Masters, Bioinformatics, Computer Science)
- 16- Biopharmaceutics (Undergraduate and masters)

Scientific Activities

Memberships of Scientific Societies and pharmacy groups:

Member of the Controlled Release Society (CRS) – The highest impact society in drug delivery world-wide.

Member of the United Kingdom and Ireland Controlled Release Society (UKICRS).

Member of the Egyptian Pharmaceutical Society (2014 – till current).

Member of the Egyptian Syndicate of Pharmacists (200 –till current).

Member of Association of Ain Shams Scientific Pharmaceutical Students Association (ASSPSA).

Editorial Roles:

Member of the editorial board of Peertechz Journal of medicinal chemistry and research.

Member of the editorial board of the International Research Journal of Sciences and Pharmacy.

Projects:

Main researcher in a project that was funded by Ain Shams University, (2002-2006) under the title: "*Formulation of new drug delivery systems for ocular use*".

Consultant in a project entitled "Evaluation of the antibiotics use in the community pharmacies in Egypt" attained by Department of Pharmaceutical Care and Health Systems

– College of Pharmacy- University of Minnesota- USA

One of the three members of the administrative committee organizing the postgraduate scientific seminars (Purely Science of Pleasure-PSP) – Faculty of Pharmacy – Ain Shams University – 2011 till present.

Contributed in a project in Faculty of Medicine – Ain Shams university “**Preparing anti-ulcer drugs for padeiatrics**” under the supervision of Prof. Mustafa Hodhod (2011-2012).

Students Scientific Activities:

Supervised the summer research training course of the students of the credit hour system (Drug Design Program) in the Department of Pharmaceutics and Industrial Pharmacy – Faculty of Pharmacy - Ain Shams University – Summer 2015.

Supervised students graduation project in department of Pharmaceutics and Industrial Pharmacy – Faculty of Pharmacy – Ain Shams University – 2012.

Peer Reviewing:

Reviewer for the book entitled "Recent Trends in Antifungal Agents" – Springer Publishings – 2015.

Reviewer for the journal “Cornea”

Reviewer for the European Journal of Pharmaceutics and Biopharmaceutics .

Reviewer for the International Journal of Nanomedicine.

Reviewer for the European Journal of Pharmaceutical Sciences.

Reviewer for the Expert Opinion on Drug Delivery journal.

Reviewer for the International Journal of Biological Macromolecules.

Reviewer for the Drug Delivery journal.

Reviewer for the International Journal of Pharmaceutics.

Reviewer for the journal Drug Development and Industrial Pharmacy.

Reviewer for the journal of Ocular Pharmacology and Therapeutics.

Reviewer for the journal of Carbohydretes Polymer.

Reviewer for the journal of Colloids and surfaces B: Biointerfaces.

Reviewer for Molecular Pharmaceutics journal.

Reviewer for the IET Nanobiotechnology journal.

Reviewer for the Indian Journal of Pharmaceutical Sciences.

Reviewer for the African journal of Pharmacy and Pharmacology.

Reviewer for the journal of Advanced Research.

Reviewer for the international journal of nanomedicine.

Reviewer for the journal of liposome research.

Reviewer for the Current Drug Delivery journal.

Reviewer for the journal of Bioequivalence and Bioavailability.

Reviewer for the journal of Bioinformatics.

Reviewer for the international journal of Spectroscopy.

Reviewer for the Current Pharmaceutical Design Journal.

Reviewer for the Biochemical Engineering journal.

Reviewer for the journal Archives of Dermatological Research.

Reviewer for the Current Drug Targets journal.

Scientific Conferences and Workshops

Held a workshop in the British University in Cairo, 9 Feb 2016 under the title of:
“Mathematical modeling using Design Expert[®] Program: Introduction and Applications”.

Reviewer for the Controlled Release Society (CRS) annual meeting and exposition that will be held on July 17-20, 2016 – Seattle, Washington, USA.

Accepted abstract in BioVision Alexandria 2016 – Alexandria – Egypt entitled:
“Computational tools can replace Pharmaceutical microemulsions formulations solubility studies”.

One of the academic organizers of the “**Arab African and API Congress-AAAPCI Congress**” Le Passage – Cairo – Egypt, **17-18 May 2016**.

A chairperson and a referee for the **Scientific Sessions 1 and 2 of the 1st Medical Integrated Students Research Conference** held on Saturday **31st of October 2015** – Canyon Hall -Fairmont Hotel – Heliopolis- Cairo – Egypt.

Accepted abstract for poster presentation in the 2015 International Liposome society conference – London, entitled :
“**Penetration Enhancing Hybridized Vesicles for the Efficient Ocular Delivery of an Anti-Glaucoma Drug**”.

Attended a webinar entitled “**Novel Drug Delivery Methods**” by Prof. Robert Doyle, Syracuse University, November 2015.

Reviewer for the Controlled Release Society (CRS) annual meeting that was held on July 26-29, 2015 – Edinburgh, Scotland.

Has two accepted abstracts and presented them in the Controlled Release Society (CRS) annual meeting that was held on July 26-29, 2015 – Edinburgh, Scotland, entitled:
“**Computer-Assisted Drug Formulation: Computational tools for dosage form design**”
And

“**Gelatinized core liposomes: Towards an advanced carrier for hydrophilic drugs formulation**”

A distinguished invited speaker in the 3rd international FUE conference (February 9-11, 2015, Cairo, Egypt) and delivered a talk under the title of “**Ocular drug delivery: A focus on protein carriers**”.

Reviewer for the International Workshop on Chemical Sciences and Pharmaceutical Research (CSPR 2014), September 25-28 Beijing, China.

Attended the 17th scientific congress of of the association of colleges Pharmacy in the Arab world: New trends in Drug Discovery, Development and Pharmacy Practice (14-16 October, 2014).

Attended the the 19th international symposium on microencapsulation (9-11 September, 2013) – Pamplona – Spain and presented a short talk and a poster entitled “**The use of multivariate statistical methods in selecting stable Self -microemulsifying drug delivery systems of a poorly soluble drug**”

Attended the 19th international symposium on microencapsulation – Pamplona –Spain (9-11 September, 2013)- Pamplona – Spain and presented a poster entitled “**Could liposomes be a suitable carrier for systemic delivery of an anti-osteoporotic drug via the pulmonary route?**”

Received the European Science Foundation (ESF) full grant (Conference fees, travel expenses and accommodation) to attend the ESF-Biological surfaces and interfaces conference (30 June – 5 July, 2013) at Sant Feliu de Guixols, Catalonia, Spain and present a short talk and a poster entitled: **“Chitosan nanoparticles production: the end of the debate”**

Attended the FUE International Workshop on Modern Tablet Manufacturing, QC/QA and Bioavailability/Bio-equivalence (February 20-21, 2013, Cairo, Egypt).

Presented an oral presentation under the title of **“ Principle Component Analysis in Optimizing Drug Delivery Systems”** in the 3rd symposium on Biodendrimers (Biodendrimers 2012) – Toledo – Spain. (5-8 September, 2012).

Attended the Humboldt Kolleg conference:, **“Pharmaceutical and Biotechnological Therapies”** 28 September – 1 October, 2012 -German University in Cairo.

Published a poster in 2012 International Conference on Pharmaceutical Technology (ICPT) – Future University in Egypt (FUE) entitled: **“The use of NMR in the localization of a model drug in microemulsion formulations”**.

Published a poster in 2011 United Kingdom and Ireland Controlled Release Society Symposium (Queen’s University-Belfast) entitled: **“Microemulsion formulations for the transdermal delivery of olmesartan medoxomil”**.

Attended the workshop **“Foundations of Computational Chemistry”** – 2011 – Faculty of Pharmacy – Ain Shams University

Presented 2 posters in the 3rd skin symposium and 10th annual skin forum that were held in Versailles – Paris (France) – March 2009 **entitled: “Microemulsion formulations for the transdermal delivery of testosterone”**and **“Mechanisms of stratum corneum penetration enhancement by topical microemulsions”**.

Had an accepted abstract for a poster in the ESF-UB Conference in Biomedicine: Nanomedicine: Reality Now and Soon, 23-28 October 2010 • Sant Feliu, Spain, entitled: **“Visualization, spatial distribution determination and molecular effects monitoring of a microemulsion formulation in the skin stratum corneum”**.

Attended Skin Focus meetings 2008 – 2009, Bristol, England and Cardiff – Wales – UK.

Published a poster in the First conference for development of scientific researches – Ain Shams University (2005).

Presented 2 posters in AlAzhar Third International Conference for Pharmaceutical and biological Sciences (2003).

Attended Confocal laser scanning microscopy training, department of physics, Bath University, Bath, UK (2009).

Attended an intensive training and development event, 2008 for graduate teaching associates and postgraduates with teaching responsibilities – Carpenter house innovations Centre – University of Bath – UK.

Applications of X-ray Diffraction workshop – Faculty of Science – Ain Shams University (2001).

HPLC usage training, Agilent company, Egypt (2010).

Attended the webinar “Laser Diffraction technique for particle Size and Method Development” by Malvern Company – UK (2012).

Participated as a lecturer in the “way out” workshop for students assistance in applying for scholarships and exchange travel grants (2012).

The educational course for demonstrators and teaching assistants – Faculty of arts – Ain Shams University (2005).

Attended intensive courses for lecturer training and development of skills and obtained certificates from FLDC (Faculty Leadership and Development Center) at Ain Shams University:

- 1- Application of credit hours systems in universities.
- 2- The use of technology in teaching.
- 3- Competitive research projects skills.
- 4- Ethics of scientific research.
- 5- Effective presentation skills.
- 6- Quality standards in the teaching process
- 7- Managing research projects.
- 8- Financial and regulatory aspects.
- 9- Managing time and meetings.
- 10- Electronic exams and question banks.
- 11- SPSS
- 12- Communication Skills

List of publications

1- Exploring the use of nanocarrier systems to deliver the magical molecule; Curcumin and its derivatives

Mehanny M, Hathout RM, Geneidi AS, Mansour S.

J Control Release. 2016 Mar 10; 225:1-30. Epub 2016 Jan 14

. doi: 10.1016/j.jconrel.2016.01.018.

2- Augmented simvastatin cytotoxicity using optimized lipid nanocapsules: A potential for breast cancer treatment

Safwat, S., Hathout, R.M., Ishak, R.A., Mortada, N.D.

Journal of Liposome Research (2016), In Press.

3- Bisdemethoxycurcumin loaded polymeric mixed micelles as potential anti-cancer remedy: Preparation, optimization and cytotoxic evaluation in a HepG-2 cell model

Mehanny, M., Hathout, R.M., Geneidi, A.S., Mansour, S.

Journal of Molecular Liquids, 2016, 214, 162-170.

4- Self-microemulsifying systems of Finasteride with enhanced oral bioavailability: Multi-variate statistical evaluation, characterization, spray-drying and *in-vivo* studies in human volunteers.

Fagir W, Hathout RM, Sammour OA, El-Shafeey AH.

Nanomedicine-UK (London), 2015, 10(22), 3373-3389.

5- Replacing microemulsion formulations experimental solubility studies with in-silico methods comprising molecular dynamic and docking experiments.

Metwally AA, Hathout RM.

Chemical Engineering Research and Design (*ChERD*), 2015, 104, 453-456.

6- Computer-Assisted Drug Formulation Design: Novel Approach in Drug Delivery.

Metwally AA, Hathout RM.

Mol Pharm. 2015 Aug 3;12(8):2800-10.

7- Gelatin-based particulate systems in ocular drug delivery.

Hathout RM., Mohamed K. Omran

Pharm Dev Technol. 2016 May;21(3):379-86. doi: 10.3109/10837450.2014.999786.

8- Silencing of the Scavenger Receptor (Class B-Type 1) Gene Using siRNA-Loaded Chitosan Nanoparticles in a HepG2 Cell Model

MM Farid, RM Hathout, M Fawzy, K Abou-Aisha

Colloids and Surfaces B: Biointerfaces (2014), pp. 930-937

9- NMR Diffusion-ordered spectroscopy can explain differences in skin penetration enhancement between microemulsion formulations.

Hathout RM, Woodman TJ.

Nanomedicine. 2014 Oct;10(7):1389-90. doi: 10.1016/j.nano.2014.06.006. Epub 2014 Jun 19.

10- Towards better modelling of chitosan nanoparticles production: Screening different factors and comparing two experimental designs.

Abdel-Hafez SM, Hathout RM, Sammour OA.

Int J Biol Macromol. 2014 Mar;64:334-40.. doi: 10.1016/j.ijbiomac.2013.11.041.

11- Suitability of liposomal carriers for systemic delivery of risedronate using the pulmonary route

Nasr M, Taha I, Hathout RM

Drug Deliv. 2013 Nov;20(8):311-318. Epub 2013 Sep 30.

12- Using principal component analysis in studying the transdermal delivery of a lipophilic drug from soft nano-colloidal carriers to develop a quantitative composition effect permeability relationship.

Hathout RM.

Pharm Dev Technol. 2014 Aug;19(5):598-604

13- Transdermal delivery of betahistine hydrochloride using microemulsions: Physical characterization, biophysical assessment, confocal imaging and permeation studies.

Hathout RM, Nasr M.

Colloids Surf B Biointerfaces. 2013 May 13;110C:254-260.

14- Effect of Certain Pharmaceutical Polymers on Lomefloxacin Activity against *Helicobacter pylori*

Amir Ibrahim Mohamed, Nermeen Samir, Eman Ahmed El-Seidi, Rania Mohammed Hafez Hathout, Gehanne Abdel Samie Awad

Journal of Pharmaceuticals, 2013 Jan 01 (1), 1-11

15- Development and characterization of colloidal soft nano-carriers for transdermal delivery and bioavailability enhancement of an angiotensin II receptor blocker.

Hathout RM, Elshafeey AH.

Eur J Pharm Biopharm, 2012 Oct 10;82(2):230-240 . Epub 2012 Jul 20.

16- Applications of NMR in the characterization of pharmaceutical microemulsions.

Hathout RM, Woodman TJ.

J Control Release. 2012 Jul 10;161(1):62-72. Epub 2012 May 1

17- Visualization, dermatopharmacokinetic analysis and monitoring the conformational effects of a microemulsion formulation in the skin stratum corneum.

Hathout RM, Mansour S, Geneidi AS, Mortada ND.

J Colloid Interface Sci. 2011 Feb 1;354(1):124-30. Epub 2010 Oct 16.

18- Uptake of microemulsion components into the stratum corneum and their molecular effects on skin barrier function.

Hathout RM, Mansour S, Mortada ND, Geneidi AS, Guy RH.

Mol Pharm. 2010 Aug 2;7(4):1266-73.

19- Microemulsion formulations for the transdermal delivery of testosterone.
Hathout RM, Woodman TJ, Mansour S, Mortada ND, Geneidi AS, Guy RH.
Eur J Pharm Sci. 2010 Jun 14;40(3):188-96. Epub 2010 Mar 19.

20- Liposomes as an ocular delivery system for acetazolamide: in vitro and in vivo studies.
Hathout RM, Mansour S, Mortada ND, Guinedi AS.
AAPS PharmSciTech. 2007 Jan 5;8(1):1

21- Preparation and evaluation of reverse-phase evaporation and multilamellar niosomes as ophthalmic carriers of acetazolamide.
Guinedi AS, Mortada ND, Mansour S, Hathout RM.
Int J Pharm. 2005 Dec 8;306(1-2):71-82. Epub 2005 Nov 2

Submitted and Defended supervised Projects / Thesis:

1- Nano-systems of a curcumin derivative for cancer therapy (Masters thesis, Department of Pharmaceutics and Industrial Pharmacy, Ain Shams University, Cairo, Egypt).

2- Towards better vaccine delivery through the pulmonary route (B.Sc. Project, Drug Product Design Program, Ain Shams University, Cairo, Egypt) (2012).

3- Silencing of the Scavenger Receptor (Class B- Type 1) Using siRNA Loaded Chitosan Nanaoparticles in a HepG2 Cell Model (Masters thesis, Department of Pharmaceutical Technology, German university in Cairo (GUC), Cairo, Egypt) (2014).

4- Applications of Nanotechnology in Brain Targeting (Masters thesis, Department of Pharmaceutical Technology, German university in Cairo (GUC), Cairo, Egypt) (2014).

5- Gelatin-based particulate systems for ocular delivery (B.Sc. Project, Drug Product Design Program, Ain Shams University, Cairo, Egypt) (2014).

6- Penetration Enhancing Hybridized Vesicles for the Efficient Ocular Delivery of an Anti-Glaucoma Drug (Masters thesis, Department of Pharmaceutical Technology, German university in Cairo (GUC), Cairo, Egypt) (2015).

7- Silencing of the metastasis-linked gene, AEG-1, using siRNA-loaded choline-modified gelatin nanoparticles in the breast carcinoma cell line MCF-7 (Masters thesis, Department of Pharmaceutical Technology, German university in Cairo (GUC), Cairo, Egypt) (2015).

Research Interests:

My current research focuses on the preparation of vesicles and colloidal nanoparticles whether polymeric or lipid using different methods and studying the different physico-chemical factors influencing the morphology, particle size and stability of these drug carriers. Computer-assisted dosage form design is my novel approach to drug delivery involving several bio and cheminformatics tools. I'm also concerned with the characterization of these nanoparticles using advanced techniques such as the NMR, FTIR, electron microscopy and atomic force microscopy and studying their cell toxicity using techniques such as MTT assay. My main work studies biologically important carriers such as the chitosan and protein-based carriers such as: gelatin nanoparticles, PLGA nanoparticles, polymeric micelles, microemulsions, lipid nanocapsules, nanostructured lipid carriers, and all kinds of vesicles (conventional and ultradeformable) together with their medical applications. I'm also interested in the interaction of these nanoparticles with the different biological barriers such as cell membranes and the skin interface. Exploiting the nanoparticles technology in gene delivery (e.g. siRNA) and targeting different biological cells and surfaces also plays an important part of my research. My broad goal lies in utilizing new micro/nano systems in the efficient treatment of diseases such as cancer and hepatitis. Recently, I am also interested in studying the pharmacokinetic behaviour of the prepared carriers and the drugs released from them. Modelling the different parameters influencing the distribution of the carriers in the body such as the particle size and zeta-potential using design of experiments, artificial neural networks, chemometrics and multivariate statistical analysis is also a main concern that would lead to successful drug targeting.

Scientific Collaborations:

- 1- University of Bath, Department of Pharmacy and Pharmacology.
- 2- Division of Drug Delivery Technology – Leiden Amsterdam Center for Drug Research (LACDR) – Leiden University – Leiden – The Netherlands.
- 3- Information Systems Department (Bioinformatics Program) – Faculty of Computer and Information Sciences – Ain Shams University – Cairo – Egypt.
- 4- German University in Cairo (GUC).
- 5- British University in Egypt (BUE).
- 6- Military Health Services.
- 7- National Cancer Institute.
- 8- Egyptian Atomic Energy Authority.

General Activities

Sports

Music

Reading.

Travelling.

Personal Data

Date of Birth: Nov,25,1977.

Nationality: Egyptian.

Place of Birth: Libya.