Curriculum Vitae Hesham M. Tawfeek PhD Prof. Dr. Hesham Mohamed Tawfeek Hassan (PhD)

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ACADEMIC/RESEARCH EXPERIENCE

Academic Experience:

- 1- <u>Professor</u> of Industrial Pharmacy, Faculty of Pharmacy, <u>Assiut University, Assiut, Egypt</u>. March, 2021 to date
- 2- <u>Associate Professor</u> of Industrial Pharmacy, Faculty of Pharmacy, <u>Assiut University, Assiut,</u> <u>Egypt</u>. September, 2017 to February 2021.
- 3- Associate Professor, Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, <u>Mu'tah University, Karak, Jordon</u>. 9th September 2017 to 31 August 2019.
- 4- <u>Associate Professor</u> of Industrial Pharmacy, Faculty of Pharmacy, <u>Assiut University, Assiut,</u> <u>Egypt</u>. April, 2016.
- 5- **Postdoctoral Mission** in Liverpool John Moores University, School of Pharmacy and Biomolecular Science for 6 months (August 2013 February 2014) working in the following projects:
- Cationic nanoparticles for vaccine delivery via the lungs
- Preparation of amorphous co-crystals and their characterisation
- Formulation and evaluation of lornoxicam mini-tablets
- Preparation and characterisation of chitosan buccal films for oral delivery of macromolecules
- Fast disintegrating tablets containing micro/nanoparticles for colon targeting
- 6- Postgraduate Education (September2008-october 2010):

5.1. Doctor of Philosophy – Ph.D. Research

A Joint Ph.D. researcher between Liverpool John Moores University, Liverpool, UK and Assiut University, Assiut, Egypt for two years.

Ph.D. thesis title: "Evaluation of novel biodegradable polymers for pulmonary protein delivery".

5.2. <u>Master of Science</u> (Industrial Pharmacy – 2005)

M.Sc. Thesis title "Formulation and evaluation of certain pharmaceutical dosage forms containing rofecoxib".

6. Graduation Education (September 1997-July 2001)

Assiut University, Faculty of Pharmacy, Assiut, Egypt

Pharmacy BSc (Hons) Excellent Degree with the First Position and Degree of Honour

Employment History:

- 1- **Head of Industrial Pharmacy Department**, Faculty of Pharmacy, Assiut University, Assiut, Egypt. April 2021 to date
- 2- Associate Editor in chief, Drug Development and Industrial Pharmacy, July 2022 to date
- 3- Associate editor in Chief, Bulletin Pharmaceutical Sciences, Assiut University, Faculty of Pharmacy. August 2021 to date.
- 4- Head of Student Union, Faculty of Pharmacy, Assiut University. November 2021 to date.
- 5- Internal Inspector in quality assurance Unit, Faculty of Pharmacy, Assiut University
- 6- **Professor**, Department of Industrial Pharmacy, Faculty of Pharmacy, Assiut University, March 2021
- 7- Acting Head of Industrial Pharmacy Department, Faculty of Pharmacy, Assiut University, Assiut, Egypt. September 2019 to April 2021
- 8- Associate Professor, Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, Mu'tah University, Karak, Jordon. 9th September 2017 to 31th of August 2019.
- 9- Acting Head of Industrial Pharmacy Department, Faculty of Pharmacy, Assiut University, Assiut, Egypt. 27, May, 2016 to 8, September, 2017.
- 10- Assistant Professor, Department of Industrial Pharmacy, Faculty of Pharmacy, Assiut University, April 2016.
- 11- *Postdoctoral Mission in* Liverpool John Moores University, School of pharmacy and Biomolecular Science, UK, August 2013 February 2014
- 12- Lecturer, Department of Industrial Pharmacy, Faculty of Pharmacy, Assiut University, 2011- March 2016.
- 13- **Ph.D. research visitor**, Liverpool John Moores University, UK, Sep. 2008 November 2010.
- 14- Assistant lecturer, Assiut University, Faculty of Pharmacy, April 2005 March 2011.
- 15- Demonstrator, Assiut University, Faculty of Pharmacy, Jun. 2002 April 2005.
- 16- Pharmacist, July. 2001 Present.
- 17- Pharmacist training, Pharmacy shops, Assiut, Cairo, Egypt, Aug. 2001 Aug. 2003

On progress researches:

- 1- Metal oxide hybrid polymers with a potential anticancer activity
- 2- Anti-TNF-α for effective management of foot wounds and ulcers in diabetic persons
- 3- Brain targeting for some CNS drugs via intranasal drug delivery utilizing nanostructured lipid carriers to enhance the low oral bioavailability of some antipsychotic drugs

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- 4- Ethosomes & transethosome encapsulated anticancer drugs for efficient topical delivery for patients with skin cancer
- 5- Spanlastics as a promising lipid nanocarriers for small Mwt compounds
- 6- Itraconazole loaded proniosomal gel for efficient control of ocular keratitis
- 7- Effective treatment of polycystic ovary syndrome in females
- 8- Delivery of curcumin to the posterior segment of the eye for effective treatment of retinal detachment
- 9- Manipulation of prostate cancer using polymer capped metal nanoparticles
- 10- Efficient control of biofilm in urinary catheter during long term administration

Research Interests:

- Lipid vesicles preparation and characterisations as well as nanostructured lipid carriers
- Novel delivery for lung cancer treatment using specific receptors antagonists
- Co-crystals formation and inclusion complexation within different cyclodextrins
- Co-amorphous formulation via spray drying
- Synthesis and characterisation of novel biodegradable polyesters with tailored *in-vitro* degradation performance
- Transdermal drug delivery via lipid vesicles e.g., transfersomes and ethosomes
- Novel polyester polymers as carriers for delivery of therapeutic agents for treatment of local lung diseases via dry powder inhalation (DPIs)
- Metallic nanoparticles for active targeting receptors overexpressed in cancer cells
- Pulmonary delivery of peptides formulations via DPIs
- Pulmonary delivery for cystic fibrosis
- Delivery of anticancer agents via novel DPI formulations for treatment of lung cancer
- Improving lung deposition of DPIs by understanding and improving carrier-particle interactions
- Nano/microparticle delivery systems with emphasis for pulmonary delivery
- Development of respiratory epithelial cell culture models
- Preformulation studies e.g., enhancing the solubilization and dissolution of poorly water soluble drugs via solid dispersions, co-adsorption, nanoprecipitation and cyclodextrin inclusions.
- Drug targeting to colon
- Development and characterization of oral dosage forms e.g., tablets and capsule with modified release pattern
- Enhancing the oral bioavailability of poorly absorbed drugs
- Minitablet formulations and ODTs
- Drug excipients interaction

Teaching Experience:

- Teaching the "Industrial Pharmacy 1&2, unit operations" "Tablet technology" and "Pharmaceutical Manufacturing" courses for 4th year, undergraduate pharmacy students, Assiut University.
- Teaching Pharmaceutical quality control, Pharmaceutical Technology and Advanced Industrial Pharmacy for undergraduate students, Faculty of Pharmacy, Mutah University, Mutah, Karak, Jordan.
- Teaching the "Pharmaceutical Technology" and "Good Manufacturing Practice" courses for 3rd year, undergraduate clinical pharmacy students, Assiut University.

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- Teaching the "Hospital Pharmacy" and "Industrial Pharmacy-1" courses for 4th year undergraduate pharmacy students, Nahda University, Beni-Suef.
- Teaching the "Pharmacy Orientation" and "Dosage Forms-1" courses for 1styear and 2nd year undergraduate pharmacy students, Nahda University, Beni-Suef.
- Teaching the "Advanced Pharmaceutical Technology" and "Laboratory Safety" for postgraduate Diploma students, Assiut University.
- -Teaching the "Tablet Technology" and "Recent approaches for Drug Delivery" for postgraduate master students, Assiut University.

- Teaching the "Sustained Release Formulations" "quality by design" and "Recent approaches for designing the Pharmaceutical Formulations" postgraduate doctor students, Assiut University.

Scientific Skills/Techniques

PHARMACEUTICS

- Design, formulation, optimization and characterization of delivery systems
 - Lipid vesicles: Nanostructured lipid; Ethosomes; niosomes and proniosomes
 - Preparation and characterisations, emulsion injection and homogenization techniques
 - Factorial design of experiment to optimize the formulation variables e.g., Taguchi design of experiment
 - In vivo characterisation
 - Inhalation Aerosols
 - Dry Powder Inhalers (DPIs)
 - Delivery of small Mw and macromolecules for sustained and immediate release
 - Emulsification & Spray-drying and spray drying from double emulsion

- Evaluation of dispersibility enhancers and its role in optimizing the aerosolisation performance and the deposition pattern

• Aerosol dispersion studies

- Next Generation Impactor
- Twin stage Impinger

• Encapsulation of proteins

- Different methods for encapsulations e.g., emulsion solvent evaporation and spray drying techniques

- Studying the bioactivity of encapsulated proteins by various biochemical tests e.g., SDS-pages, azocasein assay and utilization of fluorgenic substrates

- Studying the effect of different emulsifiers on the encapsulation characters of proteins e.g., encapsulation efficiency, size, morphology, *in-vitro* release and bioactivity.

o Polymeric Delivery Systems – Micro/Nanoparticles

 Poly(glyceroadipate-co-ω-pentadecalactone), PGA-co-PDL and poly(lactic-co-glycolide), PLGA, PEGylated PGA-co-PDL and poly(caprolactones).

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- Incorporation of macromolecules (chymotrypsin, lysozyme) & therapeutic agents e.g., sodium diclofenac
- *In vitro*, stability and degradation studies
- Attachment of small Mw compounds into the functionalized polymers
- Gold nanoparticles functionalization with somatostatin
- Silver nanotruffles for treatment of intracellular bacterial infections.

Oral Dosage Forms

- Fast disintegrating tablets, mini-tablets formulation
- Immediate release formulations
- Gastroretentive dosage forms Floating microspheres and microsponge, tablets and capsules.
- Tableting, dissolution, stability, dispersion of powders
- Rectal delivery
- Crystals engineering e.g., co-crystals formation and inclusion into cylcodextrins
- Intra-articular delivery of anti-inflammatory compounds using modified chitosan derivatives
- Preformulation studies; FT-IR, DCS, XRD, TGA, SEM and TEM
- Transdermal and topical formulations; transfersomes, liposomes and topical gels and creams
- **Combined drug therapy e.g.,** rofecoxib plus acetyl salicylic acid tablets & Atorvastatin Calcium/Trimetazidine Hydrochloride

ANALYTICAL

- o UV-VIS& Fluorescent spectroscopy, HPLC, Laser diffraction particle sizer
- Particle size and charge
 - Mastersizer & Brookhaven Plus, Sympatec, Nanotrac
- Polymer characterization
 - GPC, ¹H-NMR, ¹³C-NMR and FT-IR and surface contact angle
- Powder science, process and characterization
 - Measurements of powder density, crystallinity & thermal analysis
 - Ultrapycnometer, Powder X-ray diffraction, DSC
- o Microscopy
 - Optical, scanning (SEM), TEM, fluorescence and confocal

MOLECULAR, CELL and MICROBIOLOGY

- ELISA/ELISPOT –Release of cytokines in response to microparticles administered to lung cancer cell lines.
- o Aseptic techniques, in vitro characterization
 - Cell culture
 - lung cancer cells (Culturing lung cancer cells at Air-Liquid Interface)
 - Drug permeability studies either free or encapsulated through microparticles
 - Cytotoxicity & uptake studies
- o MTT/MTS assay and Trypan blue for determining cell cytotoxicity/viability
- o Gel electrophoresis, e.g. SDS Page-zymography for mucinolytic enzymes e.g., chymotrypsin
- o Mucinolytic activity measurement using turbidimetry assay

Curriculum Vitae Publications

Submitted and Accepted Peer Reviewed Journal Papers

- Hesham M. Tawfeek, Aml I Mekkawy, Ahmed A.H. Abdelatif, Basmah N. Aldosari, Waleed A Mohammed-Saeid, Marwa G. Elnaggar. Intranasal Delivery of Sulpiride Nanostructured Lipid Carrier to Central Nervous System; In Vitro Characterization and In Vivo Study. Submitted in Pharmaceutical development and Technology.
- Lina M. Alneghery, Mohammed Al-Zharani, Fahd A. Nasri, Zienab E. Eldin, Tayel A. Al Hujran, Hesham M. Tawfeek, Mohamed H. Fayed and Shehab Elbeltagi. Fabracation and optimization of naringin-loaded MOF-5 encapsulated by liponiosomes as smart drug delivery, cytotoxicity, and apoptotic on breast cancer cells. Dug development and Industrial Pharmacy Published online: 12 Aug 2024, https://doi.org/10.1080/03639045.2024.2388786
- Basmah N. Aldosari, Hesham M. Tawfeek, Ahmed A. H. Abdellatif, Alanood Sunhat Almurshedi, Iman Mohammed Alfagih, Bushra Tawfeeq AlQuadeib, Asmaa Youssef A. Abbas, Heba M. Mohammed, Yasser A. Hassan, Mohamed H. Fayed, Nahla Sameh Tolba. Comparative Study of *Lepidium Sativum* Orally Administered Seeds, Hydrogel and Atorvastatin on Obesity of Rats Fed on a High Fat Diet. Drug Development and Industrial Pharmacy. Published online: 11 Jul 2024. https://doi.org/10.1080/03639045.2024.2376624.
- Ahmed Abdellatif; Mahmoud A. H. Mostafa; Rwaida Adel Al Haidari; Hesham Tawfeek; Ghareb M. Soliman; Sultan S. Al Thagfan; Tarek M. Faris; Nahla Sameh Tolba. Utilizing Ziziphus spina-christi for Eco-Friendly Synthesis of Silver Nanoparticles: Promising Application in Wound Healing. Submitted in Nanotechnology Reviews
- Shehab Elbeltagi, Abo bakr Abdel Shakor, Hanan M. Alharbi, Hesham M. Tawfeek, Bsamah Aldosari, Zienab E. Eldin, Basam H. Amin, Mohamed Abd El-Aal. Synergistic effects of quercetin-loaded CoFe₂O₄@Liposomes regulate DNA damage and apoptosis in MCF-7 cancer cells: based on biophysical magnetic hyperthermia. Drug Development and Industrial Pharmacy. Posted on line 4 June 2024. <u>https://doi.org/10.1080/03639045.2024.2363231</u>.
- Ahmed A. H. Abdellatif, **Hesham M. Tawfeek**, Mostafa M. Khodier, Sabry El-Khodery, Abdullah Saleh Alkhamiss, Madeh Sadan, Moustafa Mohamed Zeitoun. Can silver

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nanoparticles stabilized by Fenugreek (Trigonella foenm -graecum) improve the repair of tibial bone defects in rabbits; A preliminary study" **Open Vet. J. 2024, 14(5), 1281-1293.**

- Ahmed Abdellatif; Hesham Tawfeek; Mahmoud A. Younis. MCT4 Knockdown by Tumor Microenvironment-Responsive Nanoparticles Remodels the Cytokine Profile and Eradicates Aggressive Breast Cancer Cells. Colloids and Surfaces B: Biointerfaces Volume 238, June 2024, 113930, https://doi.org/10.1016/j.colsurfb.2024.113930
- Basmah N. Aldosari, Ahmed A. H. Abdellatif, Alanood Sunhat Almurshedi, Iman Mohammed Alfagih, Bushra Tawfeeq AlQuadeib, Asmaa Youssef A. Abbas, Yasser A. Hassan, Ahmed Abdelfattah, Hesham M. Tawfeek. Development of Oral Formulation of *Lepidium* Seeds Significantly Decreases the High Blood Glucose Levels in Diabetic Rats; In Vitro Formulation and In Vivo Antidiabetic Performance. Drug Development and Industrial Pharmacy 2024, 50(2), 112-123. Doi; https://doi.org/10.1080/03639045.2023.2300649
- Basmah N. Aldosari, Mohamed Abd El-Aal, Essam F. Abo Zeid, Tarek M. Faris, Ashraf Aboelela, Ahmed A.H. Abdellatif, Hesham M. Tawfeek. Synthesis and Characterization of Magnetic Ag-Fe₃O₄@Polymer Hybrid Nanocomposite Systems with Promising Antibacterial Application. Drug Development and Industrial Pharmacy 2023, (12), 49, 723-733. https://doi.org/10.1080/03639045.2023.2277812
- Ahmed A. H. Abdellatif, Giulia Scagnetti, Mahmoud A. Younis, Abdellatif Bouazzaoui, Hesham M. Tawfeek, Basma N. Aldosari, Alanood S. Almurshedi, Mansour Alsharidah, Osamah Al Rugaie, Michael P.A. Davies, Triantafillos Liloglou, Kehinde Ross, Imran Saleem. Non-coding RNA-Directed Therapeutics in Lung Cancer: Delivery Technologies and Clinical Applications. Colloids and Surfaces B: Biointerfaces Volume 229, September 2023, 113466. https://doi.org/10.1016/j.colsurfb.2023.113466
- Hesham M. Tawfeek, Mahmoud A. Younis, Basmah Nasser Aldosari, Alanood Sunhat Almurshedi, Ahmed Abdelfattah, Jelan A. Abdel-Aleem. Impact of the Functional Coating of Silver Nanoparticles on their *In Vivo* Performance and Biosafety. Drug Development and Industrial Pharmacy 2023 (5), 49, 349-356. https://doi.org/10.1080/03639045.2023.2214207
- Ahmed A. H. Abdellatif, Ahmed Abdelfattah, Mahmoud A. Younis, Saed M. Aldalaan, Hesham M. Tawfeek. Chitosan capped silver nanoparticles with a potent and selective intrinsic activity against breast cancer cells. Nanotechnology Reviews 2023; (1) 12: 20220546.
- Ahmed A. H. Abdellatif, Basmah Nasser Aldosari, Amal Al-Subaiyel, Aisha Alhaddad, Waad Abdulkareem Samman, Nermin E. Eleraky, Marwa G. Elnaggar, Hassan Barakat, **Hesham M.**

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- Ahmed A. H. Abdellatif, Mahmoud A. Younis; Abdullah F. Alsowinea; Emad M. Abdallah; Mohamed S. Abdel-Bakky; Amal Al-Subaiyel; Yasser A. H. Hassan; Hesham M. Tawfeek. LIPID NANOPARTICLES TECHNOLOGY IN VACCINES; SHAPING THE FUTURE OF PROPHYLACTIC MEDICINE. Colloids and Surfaces B: Biointerfaces Volume 222, February 2023, 113111. https://doi.org/10.1016/j.colsurfb.2022.113111
- Ahmed A. H. Abdellatif, Asmaa T. Ali, Ahmed Abdelfattah, Abdellatif Bouazzaoui, Tarek M. Faris, Mansour Alsharidah, Osamah Al Rugaie, Hesham M. Tawfeek. Silver nanoparticles stabilized with PVP with potential anti-cancer activity. Bioinorganic Chemistry and Applications Volume 2022 | Article ID 6181448 | https://doi.org/10.1155/2022/6181448.
- Osamah Al Rugaie, Ahmed A. H. Abdellatif, Mohamed A. El-Mokhtar, Marwa A. Sabet, Ahmed Abdelfattah, Mansour Alsharidah, Musaed Aldubaib, Hassan Barakat, Suha Mujahed Abudoleh, Khalid A. Al-Regaiey and Hesham M. Tawfeek. Retardation of Bacterial Biofilm Formation by Coating Urinary Catheters with Metal Nanoparticle-Stabilized Polymers. Microorganisms 2022, 10, 1297. https://doi.org/10.3390/microorganisms10071297.
- Tayel A. Al Hujran, Mousa K. Magharbeh, Al-Meqdad Y. Alhabashna, Rasha S. Al-Dmour, Ashrf Aboelela, Hesham M. Tawfeek. Insight into the inclusion complexation of Fluconazole with Sulfonatocalix[4]naphthalene in aqueous solution, solid-state, and its antimycotic activity. Molecules 2022, 27, 4425. https://doi.org/10.3390/molecules27144425.
- Ahmed A. H. Abdellatif, Mahmoud A. Younis, Mansour Alsharidah, Osamah Al Rugaie, Hesham M. Tawfeek. Biomedical applications of quantum dots: overview, challenges and clinical potentials. International Journal of Nanomedicine. 2022:17 1–20.
- Ahmed Abdelfattah, Ahmed E. Aboutaleb, Abu-Baker M Abdel-Aal, Ahmed A. H. Abdellatif, Hesham M Tawfeek, Sayed I. Abdel-Rahman. Design and optimization of PEGylated silver nanoparticles for efficient delivery of Doxorubicin to cancer cells. Journal of Drug Delivery Science and Technology, 71, May 2022, 103347. https://doi.org/10.1016/j.jddst.2022.103347
- Mohammed F. Aldawsari, Amer S. AlAli, Ahmed Al Sakr, Bjad K Almutairy, Alhussain H. Aodah, **Hesham M. Tawfeek**, El-Sayed Khafagy, Doaa A. Helal, and Mohamed H. Fayed.

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Design-of-experiment approach to quantify the effect of nano-sized silica on tableting properties of microcrystalline cellulose to facilitate direct compression tableting of binary blend containing a low-dose drug. Journal of Drug Delivery Science and Technology. Volume 68, February 2022.

- Mahmoud A. Younis, Hesham M. Tawfeek, Ahmed A. H. Abdellatif, Jelan A. Abdel-Aleem, Hideyoshi Harashima. Clinical Translations of Nanomedicines; Key, challenges and Opportunities. Advanced Drug Delivery Reviews. Volume 181, February 2022. https://doi.org/10.1016/j.addr.2021.114083
- Tayel A. Al Hujran, Mousa K. Magharbeh, Samer Al-Gharabli, Rula Haddadin, Manal N. Al Tawfeek. Studying Soub. and Hesham M. the Complex Formation of Sulfonatocalix[4]naphthalene and Meloxicam towards Enhancing its Solubility and **Pharmaceutics** 994. Dissolution Performance. 2021, 13, https://doi.org/10.3390/pharmaceutics13070994
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- Ahmed A H Abdellatif, Hesham M Tawfeek, Ahmed Abdelfattah, Gaber El-Saber Batiha, Helal F Hetta. Recent updates in COVID-19 with an emphasis on inhalation therapeutics: nanostructured and targeting systems. Drug Deliv Sci Technol. 2021 Jun;63:102435. doi: 10.1016/j.jddst.2021.102435. Epub 2021 Feb 19.
- Ahmed A.H. Abdelftah, Hamad Al-Turki, Hesham M. Tawfeek. Different cellulosic polymers for synthesizing of silver nanoparticles with antioxidant and antibacterial activities. Scientific Reports-Nature 11, 84, 2021. https://doi.org/10.1038/s41598-020-79834-6.
- Hesham M. Tawfeek, Yasser A. Hassan, Mohammed F. Aldawsari, Mohamed H. Fayed. Enhancing the low oral bioavailability of sulpiride via orally fast disintegrating tablets; formulation, optimization and in vivo characterization. Pharmaceuticals 2020, 13(12) 446
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- Ahmed A.H. Abdelftah, Robert Hennig, Klaus Pollinger, Hesham M. Tawfeek, Abdellatif Bouazzaoui, and Achim Goepferich. Fluorescent nanoparticles coated with somatostatin analogues for targeting blood monocyte for efficient leukaemia treatment. Pharmaceutical Research 2020 Oct 9;37(11):217.doi: 10.1007/s11095-020-02938-1
- Marwa G Elnaggar, Hassan E Eldesouky, Yihua Pei, Jinho Park, Haroon T Mohammad, Youssef A Hegazy, Hesham M Tawfeek, Aly A Abdel-Rahman, Ahmed E Aboutaleb, Mohamed M Seleem. Pexiganan-loaded Silver Nanotruffles for Treatment of Intracellular Bacterial Infection. Biomaterials, Pub Date: 2020-08-29, DOI: 10.1016/j.biomaterials.2020.120344.
- Mohamed M. Fayed, Mahrous O. Ahmed, Sayed I. Abdel- Rahman, Fars K. Alanazi and Hesham M. Tawfeek. An investigation into the impact of key process variables on the uniformity of powder blends containing a low dose drug in a gentle wing high shear mixer. Journal of Drug Delivery Science and Technology, Volume 60, December 2020, 102036
- Mahmoud Younis, Helal Hetta, Mohamed Abdel-Malek, Hassan Ali, Noha N. Atia and Hesham M. Tawfeek. Combining Acetyl salicylic acid and Rofecoxib into Novel Oral Tablets Normalize Platelet Function with Potential Higher Tolerability in Patients with Cardiovascular Disorders. Journal of drug delivery science and technology (Volume 59, October 2020, 101851, https://doi.org/10.1016/j.jddst.2020.101851).
- Hesham M. Tawfeek, Tejashri Chavan and Nitesh K. Kunda. Effect of Spray Drying on Amorphization of Indomethacin Nicotinamide Cocrystals; Optimization, Characterization and Stability Study. aapsPharmSci Tech, 21, Article number: 181 (2020), DOI: 10.1208/s12249-020-01732-x.
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carrier delivery system for lipophilic drugs. Microchemical Journal. Volume 150, January 2020, https://doi.org/10.1016/j.microc.2019.104321.

- Rawan Al-Karaki, Areeg Awadallah, Hesham M. Tawfeek and Maha Nasr. Preparation, characterization and cytotoxic activity of novel oleuropein microemulsion against HCT-116 colon cancer cells. Pharmaceutical Chemistry Journal, Vol. 53, No. 12, March, 1118-1121, 2020.
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- Hesham M. Tawfeek, Doaa A.Abou-Taleb, Dalia, Badary, Mohamed Ibrahium, Ahmed A.H. Abdellatif. Pharmaceutical, Clinical and Immunohistochemical Studies of Metformin Hydrochloride Topical Hydrogel for Wound Healing Application. Archive of Dermatological Research. 2020 Mar;312(2):113-121. doi: 10.1007/s00403-019-01982-1
- Mahmoud A. Younis, Marwa R. El-Zahry, Mahmoud A. Tallat and Hesham M. Tawfeek. Sulipride Gastro-retentive Microsponges; Analytical study, *In vitro* optimization and *In vivo* characterisation. Journal of Drug Targeting. 2020 Apr;28(4):386-397. doi: 10.1080/1061186X.2019.1663526. Epub 2019 Sep 17.
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- Noha N. Atia, Azza H Rageh, Marwa R. El-Zahry, Mahmoud A.Younis, Ahmed Abdelfattah, Hesham M. Tawfeek. Pharmaceutical and analytical studies for sublingual tablets of Novel Atorvastatin Calcium/Trimetazidine Hydrochloride. Saudi Pharmaceutical Journal 2019, 27(4) 540-549. https://doi.org/10.1016/j.jsps.2019.02.001 (online 5, February 2019)
- Ahmed Alalaiwe, Mohamed H. Fayed, Saad M. Alshahrani, Abdullah S. Alshetaili, Bader B. Alsulays, Hesham M. Tawfeek. Application of design of experiment approach for investigating the effect of partially pre-gelatinized starch on critical quality attributes of rapid orally disintegrating tablets. Journal of drug delivery science and Technology, 49, 227-234, 2019.
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pharmacodynamics performance. AAPSPharmSci Tec., 19 (7) 2948-2960, 2018. DOI: 10.1208/s12249-018-1108-y

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tablets using design of experiment approach. Accepted for Publication in Acta Poloniae Pharmaceutica- Drug Research, Vol. 74 No. 1 pp. 235-248, 2017.

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- Ahmed A. H. Abdellatif, Imran Y. Saleem, Gamal M. Sultan and Hesham M. Tawfeek. Novel gold nanoparticles coated with somatostatin for targeting somatostatin receptors. Drug Development and Industrial Pharmacy, DOI, 10.3109/03639045.2016.1173052, 42 (11), 1782-1791, 2016.
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- Hesham M. Tawfeek, Imran.Y Saleem and Matthew Roberts. Dissolution enhancement and formulation of rapid release lornoxicam mini-tablets. J. Pharm. Sci.103 (8) 2470-2483, 2014.
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microspheres of diclofenac sodium for sustained release. Digest J. of Nanomaterials and Biostructures 8(3) 1281-1293, 2013.

- Hesham M. Tawfeek. Lornoxicam suppositories; *In-vitro* formulation and *in-vivo*characterization.**Int. J. Pharm Sci and Res. 4**(11) 4228-4235, 2013.
- Hesham M. Tawfeek. Evaulation of PEG and mPEG-co-(PGA-co-PDL) microparticles loaded with sodium diclofenac. Saudi Pharm. J. 4(21) 387-397, 2013.
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- Hesham M. Tawfeek and Sayed M. Ahmed. Molecular Encapsulation of Biologically Active Glycolipids. Alex. J. Pharm. Sci., Vol.26 (2), Sept, 2012, 67-74.
- H M Tawfeek, F M D Ismail, G A Hutcheon, I Y Saleem, Pulmonary delivery of encapsulated cholroquin phosphate using polyester polymer based microparticles for potential treatment of lung cancer, Journal of Aerosol Medicine and Pulmonary Drug Delivery. December 2011, 24(6): P.321.
- H M Tawfeek, S H Khidr, E M Samy, S M Ahmed, G A Hutcheon, I. Saleem, Effect of PEGylation on spray dried PGA-co-PDL pulmonary carrier microparticles and in-vitro transport, Journal of Aerosol Medicine and Pulmonary Drug Delivery. December 2011, 24(6): P.327.
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- H M Tawfeek, S H Khidr, E M Samy, S M Ahmed, K Akram, A R Mohammed, E E Gaskell, G A Hutcheon, I Y Saleem, Optimisation of polyester based microparticles as carriers for pulmonary drug delivery, Journal of Aerosol Medicine and Pulmonary Drug Delivery. December 2010, 23(6): P.430
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- H M Tawfeek, S H Khidr, E M Samy, S M Ahmed, K Akram, A R Mohammed, G A Hutcheon, I.Saleem, Pulmonary delivery of α-chymotrypsin via novel polyester microparticles, Journal of Pharmacy and Pharmacology, 62, (10), 2010, 1294-1295.
- A. E. Abou-Taleb, A. A. Abdel-Rahman, E. M. Samy and **Hesham M. Tawfeek**, Formulation and evaluation of rofecoxib capsules. **Saudi Pharm. Journal, Vol. 17, No.1, 40, 2009.**
- A.E. Abou-Taleb, A.A. Abdel-Rahman, E.M. Samy, H.M. Tawfeek. Formulation and stability of rofecoxib suppositories. J. of Drug Delivery Science and Technology, 16, (5) 389, 2006.
- A.E. Abou-Taleb, A.A. Abdel-Rahman, E.M. Samy, H.M. Tawfeek, Formulation and evaluation of rofecoxib tablets in comparison with marketed product. Saudi Pharm. Journal, Vol. 14, No. 3-4, 187, 2006.
- A.E. Abou-Taleb, A.A. Abdel-Rahman, E.M. Samy, H.M. Tawfeek. Interaction of Rofecoxib with β-cyclodextrin and Hydroxypropyl β-cyclodextrinin solution and in solid state. Bull. Pharm. Sci. Assiut University, Vol. 29, Part 2, December 2006.

Conference Abstracts (selected abstracts)

• Hesham M. Tawfeek. "Curcumin-loaded NLCs for drug delivery to the posterior segment of the eye: a factor influence study" 13th IPCS International Pharmaceutical Sciences Conference (Pharmaceutical Research and Drug Industry in Light of Egypt's Vision for sustainable Development 2030). November 18-19, 2022, Luxor, Egypt.

• Hesham M. Tawfeek. "Efficient targeting of cancer cells via novel fluorescent quantum dotgold nanoparticles coated with somatostatin" 1st International Symposium on Recent Advances in Treatment of Cancer and Diabetes. Faculty of Pharmacy, Mutah University, Jordan 24-25 April, 2019.

• Hesham M. Tawfeek. PGA-co-PDL coated Eudragit L100 microparticles as a novel formulation for colon targeting. Future 4th International Conference of Pharmaceutical Sciences, Dusit Thani, New Cairo, Egypt, Jan 31^{st} – Feb 2^{nd} , 2017.

• Hesham M. Tawfeek and Mahmoud A. Younis. Adsorption and co-adsorption; promising approaches for enhancement of glibneclamide dissolution. Future 4th International Conference of Pharmaceutical Sciences, Dusit Thani, New Cairo, Egypt, Jan 31st – Feb 2nd, 2017.

- Hesham M. Tawfeek et al., Silver nanotruffles for treatment of intracellular bacterial infections. Purdue University, West Lafayette, Indiana, USA, University Symposium, April, 2016.
- Hassan R. Hassan and <u>Hesham M. Tawfeek</u>. Insight into the inclusion complexation of indomethacin nicotinamide co-crystals. 6th APS International PharmSci Conference, The Science of Medicines, 7-9th September, 2015. East Midlands Conference Centre, Nottingham, UK.
- <u>Hesham M. Tawfeek</u> and Ahmed A. Abdellatif. Formulation and Characterisation of fluorescent gold nanoparticles. 6th APS International PharmSci Conference, The Science of Medicines, 7-9th September, 2015. East Midlands Conference Centre, Nottingham, UK.

Hesham M. Tawfeek PhD

- <u>Hesham M. Tawfeek</u> and Imran. Saleem. Lornoxicam mini-tablets: *In vitro* and *In vivo* studies. 2nd International Conference of New Horizons in Basic and Applied Science, 1-6 August 2015, Hurghada, Egypt.
- <u>Hesham M. Tawfeek</u> and Imran Y. Saleem. Pulmonary delivery of Beclometasone loaded PGA-co-PDL nanocompsite microparticles. 2nd International Conference on Advanced Basic and Applied Science, Sokhna, Egypt. 2 – 4 April 2014.
- <u>Hesham M. Tawfeek</u> and Matt Roberts. Enhancement the dissolution of Lornoxicam by solid dispersion and co-adsorption techniques. Assiut University 9th International Pharmaceutical Sciences Conference, Faculty of Pharmacy, Assiut, Egypt, 12-14, March 2014.
- <u>**H M Tawfeek</u>**, Evaluation of PEG and mPEG-co-PGA-co-PDL microparticles loaded with sodium diclofenac, 8thWorld Meeting of Pharmaceutics, BioPharmaceutics and Pharmaceutical Technology, March19-22, 2012, Istanbul LutfiKirdar Convention and Exhibition Centre, Istanbul, Turkey.</u>
- Eman M. Samy, <u>Hesham M. Tawfeek</u> and Hartwig Steckel, Characterisation of solid state forms of Danazol, 8th World Meeting of Pharmaceutics, BioPharmaceutics and Pharmaceutical Technology, March 19-22, 2012, Istanbul LutfiKirdar Convention and Exhibition Centre, Istanbul, Turkey.
- <u>H M Tawfeek</u>, S H Khidr, E M Samy, S M Ahmed, G A Hutcheon, I.Saleem, Optimisation of α-chymotrpsin for dry powder pulmonary delivery using novel biodegradable polyesters, AAPS Annual Meeting and Exposition, 25, October 23-27, 2011, Walter E. Washington Convention Centre, Washington, DC, USA.
- <u>**H M Tawfeek</u>**, F Ismail, G A Hutcheon, I Saleem, Pulmonary delivery of encapsulated chloroquine phosphate using polyester polymer-based microparticles for potential treatment of lung cancers, Drug Delivery to the lungs, DDL21, 8th-10th December 2010, Edinburgh International Conference Centre, Edinburgh, Scotland, UK.</u>
- <u>**H M Tawfeek**</u>, S H Khidr, E M Samy, S M Ahmed, G A Hutcheon, I Saleem, Effect of PEGylation on spray dried PGA-co-PDL pulmonary carrier microparticles, Drug Delivery to the lungs, DDL21, 8th-10th December 2010, Edinburgh International Conference Centre, Edinburgh, Scotland, UK.
- <u>**H M Tawfeek**</u>, S H Khidr, E M Samy, S M Ahmed, E E Gaskell, G A Hutcheon, Encapsulation and release of α -chymotrypsin using novel biodegradable polyesters, Institute for Health Research Annual Conference 2009, Liverpool, UK.
- <u>H M Tawfeek.</u> S H Khidr, E M Samy, S M Ahmed, E E Gaskell, G A Hutcheon, I. Saleem, PGA-co-PDL as a novel carrier for pulmonary drug delivery, Invitation o the 7th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 8th to 11th M arch 2010,MCC, La Valletta, Malta.
- <u>H M Tawfeek</u>, S H Khidr, E M Samy, S M Ahmed, G A Hutcheon, I. Saleem, Enhancing the Aerosolisation Proprieties of poly(glycerol adipate-co-ω-pentadecalactone) Microparticles as Novel Carriers for Dry Powder Inhalation, 37th Annual Meeting & Exposition of the Controlled Release Society, July 10-14, 2010, Oregon Convention Center, Portland, U.S.
- <u>H M Tawfeek</u>, S H Khidr, E M Samy, S M Ahmed, E E Gaskell, G A Hutcheon, Effect of different emulsifiers on the α-chymotrypsin loaded poly(propandioladipate-co-ω-pentadecalactone) microparticle characteristics, Institute for Health Research Annual Conference, Friday 21 May 2010 at Tate Liverpool, Albert Dock, Liverpool, UK.
- <u>H M Tawfeek</u>, S H Khidr, E M Samy, S M Ahmed, E E Gaskell, G A Hutcheon, Encapsulation and release of α-chymotrypsin in poly(glycerol adipate-co-ω-pentadecalactone) microparticles, 42nd IUPAC Congress, Chemistry solutions, 2-7 August 2009, SECC, Glasgow, Scotland, UK.

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- E. Abou-Taleb, A. A. Abdel-Rahman, E. M. Samy and <u>Hesham M. Tawfeek</u>, Development and evaluation of rofecoxib capsules, aaps, Annual Meeting and Exposition, Georgia World Congress Centre, 16-20 November, Atlanta, Georgia, USA.
- E. Abou-Taleb, A. A. Abdel-Rahman, E. M. Samy and <u>Hesham M. Tawfeek.</u> Effect of pH and temperature on the micellar solubilization of rofecoxib, Al-Azhar University. 2nd International Conference for Pharmaceutical and Biological Sciences, Faculty of Pharmacy, Cairo, Egypt.
- A. E. Abou-Taleb, A. A. Abdel-Rahman, E. M. Samy and <u>Hesham M. Tawfeek</u>, Formulation and Evaluation of rofecoxib tablets, Saudi International Pharmaceutical Science Conference.

Oral Presentations

- Floating Microsponge as an effective tool for absorption enhancement. Modern Techniques in Pharmaceutical Sciences, 1st International Conference of Faculty of Pharmacy, Mutah University, Dead Sea, Jordan, April 18-19, 2018
- **PGA-co-PDL biodegradable polyester, synthesis, characterisation and pharmaceutical applications in drug delivery**. 1st International Conference on Pharmaceutical Sciences and Education. Luxor, Egypt, 29-31 March, 2017.
- Macromolecules delivery to the lungs using new biodegradable polyesters. Assiut University 8th International Pharmaceutical Sciences Conference, Faculty of Pharmacy, Assiut, Egypt, 12-14, March 2012.
- Formulation and development of gastroretentive drug delivery system for sulpiride: I: *In vitro* evaluation. Assiut University 6th International Pharmaceutical Sciences Conference, Faculty of Pharmacy, Assiut, Egypt, 10-12, March 2008.

Patents:

- 1- Preparation and evaluation of spray dried Rosuvastatin calcium-PVP microparticles for the improvement of serum lipid profile. Patent No. 1194/2019
- 2- Novel Rofecoxib/ Acetyl salicylic acid Oral Tablet Combination with a Higher Safety in Patients having Cardiovascular Disorders. Patent No. 1861/2019

Projects:

International project with Faculty of Pharmacy, Qassim University, Saudi Arabi, Project No: QU-IF-1-2-1

Some Intended Workshops:

- 1- International Molecular Genetics & Biotechnology Seminars (MGBS) organized by the Department of Genetics, Faculty of Agriculture, Assiut University, May 15 July 24, 2022
- 2- Virtual veterinary vaccine workshop. Liverpool John Moores University Chiang Mai University. 6-7th May, 2021
- 3- Seminar for Purification and formulation solutions given on the 4th of February 2018 by Experts from Buchi Company, Sena Establishment for Laboratory Equipment Trading, Amman, Jordan.

3- International workshop from Arab-German Young Academy of Scientific and Huminities (agya). "Active Pedagogical Techniques in Higher Education: Combining Multidisciplinary Learner-

Centered Educational Experience from Egypt, Germany, Malaysia and United States". 3-4 October 2018, Mutah University, Karak, Jordan.

Awards and Activates:

- Scientific reports, Top 100 materials science Scientific Reports papers in 2021 for article "Different cellulosic polymers for synthesizing silver nanoparticles with antioxidant and anti-bacterial activities".
- Best poster presentation at the 24th International conference and Exhibition on Pharmaceutical Formulations. Sep 15-16, 2021, UK for poster entitled "Ocular delivery of itraconazole loaded proniosomal gels for effective control of ocular keratitis".
- Best Researcher Award "The International Scientist Award 2020 on Engineering, Science and Medicine" VDGOOD, Technology Factory. India.
- The best academic poster presentation, 1st International Symposium of Faculty of Pharmacy, Mutah University, Jordan, 24-25 April, 2019.
- The best oral presentation in 1st International Conference on Pharmaceutical Sciences and Education. Luxor, Egypt, 29-31 March, 2017
- Scientific and organization committee of the 2nd International Conference on New Horizons in Basic and Applied Science, Hurghada, Egypt, 2015.
- The best PhD thesis in Assiut University 2012/1013
- The best academic poster presentation, DDL 20, 2009
- Syndicate of Pharmacy Medal for Top Ten University Graduates (B.Sc) Graduates ranked as the 1st 2001.

Conferences Attended

- The 3rd MRCE International Conference on materials Engineering and Nanotechnology 24th 26th April; 2023.
- 13th IPCS International Pharmaceutical Sciences Conference (Pharmaceutical Research and Drug Industry in Light of Egypt's Vision for sustainable Development 2030). November 18-19, 2022, Luxor, Egypt.
- 1st International Symposium on Recent Advances in Treatment of Cancer and Diabetes. Faculty of Pharmacy, Mutah University, Jordan 24-25 April, 2019.
- Modern Techniques in Pharmaceutical Sciences, 1st International Conference of Faculty of Pharmacy, Mutah University, Dead Sea, Jordan, April 18-19, 2018.
- 20th Congress of the Arab Association of the Faculties of Pharmacy, 2nd International Conference of the Faculty of Pharmacy Al-Isra University, 5th International conference of the Jordanian Faculties of Pharmacy. 8-10 November, 2017, Al-Isra University, Amman, Jordan.
- Purdue University, West Lafayette, Indiana, USA, University Symposium, April, 2016.
- 2nd International Conference of New Horizons in Basic and Applied Science, Hurghada, Egypt, 2015
- 2nd International Conference on Advanced Basic and Applied Science, Sokhna, Egypt. 2 4 April 2014.
- 7th, 8thWorld Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Malta, 2010, Istanbul, 2012.
- AAPS Annual Meeting and Exposition, 25, October 23-27, 2011, Walter E. Washington Convention Centre, Washington, DC, USA.
- Drug Delivery to the Lungs (DDL), Scotland, 2009, 2010

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- 37th Annual Meeting & Exposition of the Controlled Release Society, July 10-14, 2010, Oregon Convention Center, Portland, U.S.
- Institute for Health Research Annual Conference 2009, Liverpool, UK.
- IUPAC congress, Chemistry solution, Scotland, UK 2009
- UK Pharm Science, UK, 2010
- Controlled Release Society Conference, 2010
- Assiut University International Pharmaceutical Sciences Conference, 2004, 2006, 2008, 2012, 2014, 2020

Membership of Societies

- Royal Society of Chemistry
- Egyptian Pharmacy Syndicate
- Associate Editor in Drug Development and Industrial Pharmacy Journal

Community Services

- Active member in Quality Assurance reviewing committee, Faculty of Pharmacy, Assiut University
- Head of Student Union, Faculty of Pharmacy, Assiut University
- Active member on committee of environmental affairs and community services in Faculty of pharmacy, Assiut University.
- Preparing and organizing different awareness sessions in Assiut University regrading different environmental and community problems.

Theses Supervision:

1- Master Degree

- Efficacy and safety of oral sublingual midazolam premedication for children (Faculty of Medicine, Department of Anesthesia, Assiut University)
- Preparation, characterization and antifungal activity of sertaconazole-sulfobutyl ether-β-cyclodextrin complex (Faculty of Pharmacy, Isra University, Jordan)
- Preparation and Evaluation of Decorated Silver Nanoparticles Containing Anticancer Drug (Faculty of Pharmacy, Industrial Pharmacy Department, Assiut University)
- Design and evaluation of matrix tablets of Glipizide (Faculty of Pharmacy, Industrial Pharmacy Department, Assiut University)

2- PhD Degree

- Evaluation of wet granulation process, granules and tableting properties using a new gentle wing high shear mixer granulator (Faculty of Pharmacy, Industrial Pharmacy Department, Assiut University)
- Novel Silver nanotruffles for treatment of intercellular bacterial infections (Faculty of Pharmacy, Industrial Pharmacy Department, Assiut University).
- Development and characterisation of nanocomposite system for ocular drug delivery (On progress)
- Development of nanoemulsifying drug delivery system for delivery of certain drugs (on progress)

Referees:

Hesham M. Tawfeek PhD

1- Prof. Imran Saleem, Professor of Pharmaceutical Technology School of Pharmacy and Biomolecular Science, Liverpool John Moors University, Liverpool, UK <u>I.Saleem@ljmu.ac.uk</u>

2- Prof. Ibrahim EL-Sherbiny, Professor of nanomedicine and Nanotechnology, Director of Nanomedicine Program, Zewail city, Egypt. ielsherbiny@zewailcity.edu.eg

3- Dr. Ahmed Abdellatif, Associate Professor of Pharmaceutics and Pharmaceutical Technology, Qassim University, Saudi Arabia. ahmed.abdellatif@hotmail.de