

CURRICULUM VITAE

Enam Khalil, Prof.

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Qualifications:

December 1988: PhD,

Manchester University, England.

Doctoral Thesis Title: **A Thermodynamic Study of Binary and Ternary Mixtures of Some Alkanes and Alkanols.**

May 1982 : BSc,

Cairo University, Cairo, Egypt.

Languages:

English and Arabic : Fluent

Employment / Positions Held:

Staff member in the Faculty of Pharmacy, the University of Jordan since January 1989.

1993-1994: Dean Assistant, Faculty of Pharmacy, The University of Jordan.

1995-1998: Vice Dean, Faculty of Pharmacy, The University of Jordan.

Main Teaching experience:

For Ph.D Students:

- Physicochemical Properties As a Tool in Drug Research.

For Master Students:

- Advanced Physical Pharmacy.
- Drug Delivery Systems.

For Undergraduate Students:

- Physical Pharmacy in two theoretical courses and one practical course.
- Selected Topics in Physical Pharmacy, final year, elective course.
- Pharmaceutical Technology, final year, elective course.
- Radiopharmacy, final year, elective course.

In Addition to the Supervision/ Cosupervision of the Following graduate projects. Graduation year:

- Isolation and Structural Determination of the Major Components of the Fruits and Leaves of *Schinus molle* L. Grown in Jordan and Evaluation of the Wound Healing Potential of the Plant's Different Extracts in Rats Using Suitable Pharmaceutical Formulations. **2019**
- Formulation and Characterization of Hyaluronic Acid Injectable Gels: Deep Wounds Targeting. **2019**
- Cellular Uptake and Toxicity of Gold Nanorods on Human Dermal Fibroblast: Effect of Nanoparticle Surface Chemistry. **2019**
- Design and evaluation of a transdermal drug delivery system of indapamide utilizing glyceryl monooleate. **2018**
- Preparation and characterization of Paromomycin ion pairs with amphiphilic anions. **2017**
- Dakin's Solution Use for infected Diabetic Foot Ulcers: A Randomized Controlled Trial. **2017**
- Penetration And Distribution Of GNPs Into Excised Human And Animal Skin: Optimization Of Particles Size, Shape, And Surface Chemistry Toward Hair Follicles Targeting. **2016.**
- The effect of Iberin against *Pseudomonas aeruginosa* biofilms in cystic fibrosis artificial sputum medium and on ex vivo skin explant model. **2016.**
- Quantification and mechanism elucidation of emu oil as a penetration enhancer in transdermal drug delivery systems. **2016.**
- A prodrug approach to enhance azelaic acid percutaneous absorption. **2015.**
- Antiproliferative activity of the combination of Doxorubicin/ Quercetin on breast cancer cell lines: possible role of changes in oxidative stress level, **2015.**
- Preparation and characterization of microemulsion based formula of phenothiazinium salt photosensitizer for PACT treatment of acne. **2012**
- Physicochemical Characterization of Emulgels contain Simulgel 600, Montanov 68 and Cosolvent for Topical Application, **2011**

- Studying the effect of visible light-activation of photosensitizer – Pluronic gel based topical formula against *staphylococcus aureus* culture, **2010**.
- Intranasal drug delivery system for Insulin, **2003**.
- Development of controlled drug delivery system of antimicrobials for the local treatment of periodontal disease, **2003**.
- Studies on the microbiology of oil-in-water microemulsions, **2003**.
- Ionic surfactants microemulsions: Prediction of their formation and stability using in vacuo molecular modeling and data mining, **2002**.
- Glyceryl monooleate based liquid crystalline phases for the transdermal Delivery of diclofenac salts : Formulation design and Evaluation, **2001**.
- Prediction of microemulsion existence area in the ternary diagram: Application of molecular modeling and data mining, **2001**.
- Development of novel oral dosage forms using cubic liquid crystal delivery system, **2000**.
- The effect of mixing time and other variables on tablets and capsules properties some products containing magnesium stearate, **1999**.

Main Academic and Scientific Activities

Awards/ Sponsored Research:

Fulbright visiting scholar research grant, February –July, **2021**.

Terasaki Institute for Biomedical Innovation, Los Angles, CA, USA.

FTIR- Beam user times May. **2020**. Elettra Synchrotron, Trieste, Italy.
(Due to COVID-19 spread: done remotely)

SAXS- Beam user times Nov. **2019**. Elettra Synchrotron, Trieste, Italy.

U41-TXM- Beam user time April **2019**. BESSY II Synchrotron, Berlin, Germany.

SR-CD- Beam user time July **2018**. Diamond Synchrotron, London, England.

XRF- Beam user time July **2017**. Diamond Synchrotron, London, England.

FTIR- Beam user times November **2016**. ALBA Synchrotron, Barcelona, Spain.

FTIR- Beam user times May **2016**. Elettra Synchrotron, Trieste, Italy.

FTIR- Beam user times July & August **2015**. BESSY II Synchrotron, Berlin,

Germany.

FTIR- Beam user time August **2014**. MAX Lab Synchrotron, Lund, Sweden.

Sabbatical leave, **2008-2009**. The European Synchrotron Radiation Facility, (ESRF), Grenoble, France.

Sabbatical leave, **2004-2005**. The University of Cincinnati, Ohio, USA.

Tempus sponsored research visit to Saarland University-Germany, January **2005**.

DAAD sponsored research visit to Saarland University-Germany, July **2000**.

Self-sponsored research visit to Saarland University-Germany, August **1999**.

Committee/ Societies:

- Member in the Biophysical Society, U.S.A.
- Member in the Jordan Pharmaceutical Association.
- Member in the Jordanian National Committees of SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East).
- Regular reviewer for "International Journal of Pharmaceutics"
- Regular reviewer for "Pharmaceutical Research" Journal.
- Regular reviewer for "Pharmaceutical Development and Technology" Journal.
- Occasional reviewer for Pharmaceutical Journals published in Jordan and Syria.
- Evaluation for articles submitted for promotion or financial support from Jordan, Palestine and Saudi Arabia.

Main Conferences/ Workshops:

7th International Symposium on Molecular Medicine and Drug Research. Nov. 4-7, 2019, Karachi, Pakistan. Invited speaker **“Wound Healing Potential of Gold Nanorods of Different Surface Chemistry: In Vitro Evaluation Using Human Dermal Fibroblasts”**

Gordon Research Conference on Tissue Repair and Regeneration. June 9-14, **2019**, New London NH, **United States**. Poster presentation **“Ex vivo Skin Explant Model for Evaluating PACT- Iberin Effect at Pseudomonas aeruginosa Biofilms“**.

Science and Technology Exchange Program (STEP) 5th International Conference. Feb. 27 – Mar. - 02, **2019**, Karachi, **Pakistan**. Invited speaker **“ Role of Photodynamic and Photothermal-Based Therapy in Skin Research”**.

Jordan Flow Cytometry Workshop and Teaching: Basics and Advances in Flow Cytometry and their Biomedical Application. DAAD- Alumni Workshop in Jordan. October 3rd-5th, 2018, Dead Sea- **Jordan**.

WIRMS 2017 – 9th International Workshop on Infrared Microscopy and Spectroscopy with Accelerator Based Sources. Oxford, **UK**. September 25 – 28, **2017**. Poster presentation (**Evaluation of Cytotoxicity of Doxorubicin/ Quercetin Combination in MCF7 Breast Cancer Cell Line: A Combined Study Using Synchrotron Infrared Microspectroscopy and Colorimetric Assay**).

Gordon Research Conferences, frontiers of science. Conference: Barrier Function of Mammalian Skin. Waterville Valley, NH, **USA**. August 13-18, **2017**. Poster presentation (**Ex vivo Skin Permeation and Retention of Paromomycin Using Different Vehicles**).

Biophysical Society 60th Annual Meeting, Los Angeles, California, USA, February 27- March 2, **2016**. Platform lecture (**Application of FT-IR Microspectroscopy In The Investigation of The Stratum Corneum Barrier Function**)

Twelfth Arab Conference on the Peaceful Uses of Atomic Energy, Sharm El-Sheikh, Arab Republic of Egypt, 16-20 May **2015**. Lecture (**Application of Synchrotron Radiation for the Analysis of Biological Samples**)

First Swedish Jordanian Workshop on Science and Research. Hashemite University, Zarka, Jordan, 25-29 Jan **2015**. Lecturer (**Application of FTIR-Imaging In Skin Research**)

"Skin and Formulation 4th Symposium", Lyon – France, 4-5 June, 2012.
Poster Presentation (**The Tendency of Ibuprofen (IB) Toward Crystal Growth In Eudragit RL/IB and Eudragit RS/IB Films**).

The 3rd Kuwait International Pharmacy Conference, **Kuwait**, 14-16 February **2011**. Poster presentation (**Development of controlled drug delivery system of antimicrobials for the local treatment of periodontal disease**).

The 11th Eurasia Conference on Chemical Sciences, the Dead Sea, **Jordan**, 6-10 October **2010**. Poster Presentation (**Effect of the ionic surfactants at the maximum solubilization capacity and conductivity of microemulsions containing nonionic surfactants**).

Controlled Release Society (CRS) 37th Annual Meeting, July 10-14, **2010**, Oregon, **U.S.A**. Poster Presentation (**Intranasal Drug Delivery Systems : Nasal Absorption of Insulin in Rabbits using Pluronic F127 as a carrier**).

The 6th Jordanian Synchrotron Users Scientific Workshop. Amman- **Jordan**. 6th of May **2010**. Oral Presentation.

The 2nd KHIBC MENA Cancer Research Conference, 2-3 October **2009**. Amman, **Jordan**. Oral Presentation (**Synchrotron microbeam radiation therapy combined with the chemo-agent JAI-51 improve brain tumor treatment**).

HSC10: Synchrotron Radiation techniques contribution to nanoscience, 18-22 May **2009**. Grenoble, **France**.

The 19th ESRF Users' Meeting & Associated Workshops, 2-5 February **2009**. Grenoble, **France**.

The 9th International Conference on Biology and Synchrotron Radiation, 13-17 August **2007**. Manchester, **UK**.

5th SESAME Users Meeting, 27-29 November **2006**, Alexandria & Workshop on “Synchrotron Applications in Molecular Crystallography” , 30 November - 2 December 2006, Cairo, **Egypt**.

5th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 27 -30 March **2006** Geneva , **Switzerland**. Poster Presentation, (Transport Properties of Glucose in the Epidermis and Dermis)

The Third International Conference of the Royal Medicinal Services. Held in collaboration with the Royal College of Physicians of London, 5-8 April **2006**. Amman , **Jordan**. Oral presentation.

"Clinical Research Skills Workshop for Investigators". Supervised by Pfizer and the Jordanian Ministry of Health, 15-16 May **2002**. Amman , **Jordan**.

Third Symposium on Modern Detergents and Soap Techniques, 3rd SMDST, 7-10 July **2001**. Amman , **Jordan**. Oral Presentation.

Workshop organized by “The Arab Atomic Energy Agency” and concerned about the development of methods for teaching nuclear sciences and related technology during the first University degree. Cairo-**Egypt**, 24-28 January **1999**.

" Preparation and Application of Radio-labeled Chemicals and Pharmaceuticals". Workshop organized by the Arab Atomic Energy Agency, 13-25 December **1997**. Cairo, **Egypt**.

The 15th Pharmaceutical Technology Conference, 19-21 March **1996**. Oxford, **U.K**. Poster Presentation.

In addition to the participation and the professional attendance to most of the locally held related meetings and workshops.

Publications

- HPLC method development/validation and skin diffusion study of caffeine, methyl paraben and butyl paraben as skin-diffusing model drugs. Randa S. H., Imad I. Hamdan, Mutaz S. H. Salem¹, **Enam A. Khalil**, ALSayed A. Sallam. *PLoS ONE* 16(3): e0247879. **2021**.
doi.org/10.1371/journal. 2021 pone.0247879.

- Phospholipid-Gold Nanorods Induce Energy Crisis in MCF-7 Cells: Cytotoxicity Evaluation Using LC-MS-Based Metabolomics Approach. Lina A Dahabiyeh, Nouf N

Mahmoud, Mohammad A Al-Natour, Laudina Safo, Dong-Hyun Kim, **Enam A Khalil**, Rana Abu-Dahab. *Biomolecules*, 11(3) 364. **2021**.
doi: [10.3390/biom11030364](https://doi.org/10.3390/biom11030364).

- *In Vitro* and *In Vivo* Evaluation of the Wound Healing Potential of the Extracts of *Schinus molle* L. (Anacardiaceae) Grown in Jordan. Nour Aboalhaja¹, Fatma Afifi², Maysa Al-Hussaini³, M. Al-najjar, Rana Abu-Dahab, Eliza Hasen, Maha Rashed, Sara Abdel Haq and **E. Khalil**. *Indian J Pharm Sci*; 83(2):252-261. **2021**.

- Characterization of Insulin Mucoadhesive Buccal Films: Spectroscopic Analysis and In Vivo Evaluation. Maram Diab, Al-Sayed Sallam, Imad Hamdan, Randa Mansour, Rohanah Hussain, Giuliano Siligardi, Nidal Qinna and **Enam Khalil**. *Symmetry*, 13, 88. **2021**.
doi: [10.3390/sym13010088](https://doi.org/10.3390/sym13010088).

- Interaction of gold nanorods with cell culture media: Colloidal stability, cytotoxicity and cellular death modality. Nouf N. Mahmoud, Rana Abu-Dahab, Maha Abdallah, Sabaa Al-Dabash, Duaa Abuarqoub, Abdulrahim Albasha, **Enam A. Khalil**. *Journal of Drug Delivery Science and Technology*. 60, 1-10. **2020**

- Colloidal stability and rheological properties of gold nanoparticle-loaded polymeric hydrogels: impact of nanoparticle's shape, surface modification, and concentration. Nouf N. Mahmoud, Rania Hamed and **Enam A. Khalil**. *Colloid and Polymer Science*. **2020**.
doi: [10.1007/s00396-020-04659-8](https://doi.org/10.1007/s00396-020-04659-8)

- Gold Nanocomplex Strongly Modulates the PI3K/Akt Pathway and Other Pathways in MCF-7 Breast Cancer Cell Line. Nouf N. Mahmoud, Duaa Abuarqoub, Rand Zaza, Dima A. Sabbah, **Enam A. Khalil** and Rana Abu-Dahab. *Int J Mol Sci*. 21(9):3320. **2020**.
doi:[10.3390/ijms21093320](https://doi.org/10.3390/ijms21093320).

- Nanoparticle size and chemical modification play a crucial role in the interaction of nano gold with the brain: extent of accumulation and toxicity. Nouf N. Mahmoud, Abdulrahim Albasha, Suhair Hikmat, Lama Hamadneh, Rand Zaza, Ziad Shraideh and **Enam A. Khalil**. *Biomaterials Science, RCS*. **2020**,
doi: [10.1039/c9bm02072a](https://doi.org/10.1039/c9bm02072a).

- Insights into the Cellular Uptake, Cytotoxicity, and Cellular Death Modality of Phospholipid-Coated Gold Nanorods toward Breast Cancer Cell Lines. Nouf N. Mahmoud, Rana Abu-Dahab, Lama A. Hamadneh, Duaa Abuarqoub, Hanan Jafar and **Enam A. Khalil**. *Mol. Pharmaceutics*, volume 16. **2019**
doi: [10.1021/acs.molpharmaceut.9b00470](https://doi.org/10.1021/acs.molpharmaceut.9b00470)

- Interaction of Gold Nanorods with Human Dermal Fibroblasts: Cytotoxicity, Cellular Uptake, and Fibroblasts: Cytotoxicity, Cellular Uptake, and Wound Healing. Nouf N. Mahmoud, Lubna M. Al-Kharabsheh, **Enam A. Khalil** and Rana Abu-Dahab. *Nanomaterials*, 9, 1131. **2019**
doi:[10.3390/nano9081131](https://doi.org/10.3390/nano9081131)

- Gold nanoparticles loaded into polymeric hydrogel for wound healing in rats: Effect of nanoparticles' shape and surface modification. Nouf N. Mahmouda, Suhair Hikmata, Duaa Abu Ghitha, Manar Hajeera, Lama Hamadneha, Duaa Qattanb, **Enam A. Khalil**. *International Journal of Pharmaceutics*, 565, 174–186. **2019**
doi: 10.1016/j.ijpharm.2019.04.079
- Cholesterol-Coated Gold Nanorods as an Efficient Nano-Carrier for Chemotherapeutic Delivery and Potential Treatment of Breast Cancer: In Vitro Studies Using MCF-7 Cell Line. Nouf N. Mahmoud, Dima A. Sabbah, Rana Abu-Dahab, Duaa Abuarqoub, Maha Abdallah, Ameerah (Hasan Ibrahim), **Enam A. Khalil**. *RSC Advances*, 9, 12718–12731. **2019**.
doi: 10.1039/c9ra01041f
- Preferential Accumulation of Phospholipid-PEG and Cholesterol-PEG Decorated Gold Nanorods into Human Skin Layers and Their Photothermal-Based Antibacterial Activity. Nouf Mahmoud, Ala Alhusban , Jamila Isabilla Ali , Amal Al-Bakri , Rania Hamed, **Enam Khalil**, *Scientific Reports* 9(1), **2019**.
DOI: 10.1038/s41598-019-42047-7
- Chemodiversity and Antiproliferative Activity of the Essential Oil of Schinus molle Growing in Jordan. Nour H. Aboalhaja, Oriana Awwad, **Enam Khalil**, Reem Abbassi, Ismail F. Abaza, and Fatma U. Afifi. *Chemical Biodiversity*, 16, e1900388. **2019**.
- Schinus molle L. Collected from Jordan and Turkey: Essential Oil Composition and Anticholinesterase Activity. N. Aboalhaja, R. Amro, I. Abaza, **E. Khalil**, A. Al-Aboudi, M. Abu-Zarga, F.U. Afifi. *Journal of Essential Oil Bearing Plants*, 22:3, 704-716. **2019**.
- Antiproliferative activity of the combination of doxorubicin/quercetin on MCF7 breast cancer cell line: A combined study using colorimetric assay and synchrotron infrared microspectroscopy. Nirmeen Elmadany, **Enam Khalil**, Lisa Vaccari, Giovanni Birard, Ibraheem Yousef, Rana Abu-Dahab. *Infrared Physics and Technology*, 95 (2018) 141–147. **2018**
doi:10.1016/j.infrared.2018.10.014
- Correlation between ICP-OES and Synchrotron-XRF in Detecting the Penetration of Gold Nanorods into Excised Human Skin Layers. Nouf N. Mahmoud, Messaoud Harfouche, Alaaldin M. Alkilany, Amal G. Al-Bakri, **Enam A. Khalil**. *Microscopy and Microanalysis*, 24 (Suppl 2), 538-39. **2018**.
doi:10.1017/S1431927618014885
- Evaluation of paromomycin sulphate permeation using *ex vivo* human skin model. **Enam A. Khalil**, Mahmoud Y. Alkawareek, Ghadeer Othman, Bayan Tbakhi & Amal G. Al-Bakri. *Pharmaceutical Development and Technology*, 1-4. **2018**.
doi:10.1080/10837450.2018.1485697

- Synchrotron-based X-ray fluorescence study of gold nanorods and skin elements distribution into excised human skin layers. Nouf N. Mahmouda, Messaoud Harfoucheb, Alaaldin M. Alkilany, Amal G. Al-Bakri, Rania A. El-Qirema, Sawsan A. Shraima, **Enam A. Khalil**. *Colloids and Surfaces B: Biointerfaces*, 165, 118-126. **2018**
doi:10.1016/j.colsurfb.2018.02.021
- Nano-Photothermal ablation effect of Hydrophilic and Hydrophobic Functionalized Gold Nanorods on Staphylococcus aureus and Propionibacterium acnes. Nouf N. Mahmoud, Alaaldin M. Alkilany, **Enam A. Khalil** & Amal G. Al-Bakri *Sciencific Reports*, 1-10. **2018**.
doi:10.1038/s41598-018-24837-7
- Antibacterial activity of gold nanorods against Staphylococcus aureus and Propionibacterium acnes: misinterpretations and artifacts. Nouf N Mahmoud, Alaaldin M Alkilany, **Enam A Khalil**, Amal G Al-Bakri. *International Journal of Nanomedicine*, 12, 7311-7322. **2017**.
doi: 10.2147/IJN.S145531
- Elucidation of penetration enhancement mechanism of Emu oil using FTIR microspectroscopy at EMIRA laboratory of SESAME synchrotron Randa S.H. Mansour, Alsayed A. Sallam, Imad I. Hamdan, Enam A. Khalil, Ibraheem Yousef. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 185, 1–10. **2017**.
doi: 10.1016/j.saa.2017.05.026
- Preferential accumulation of gold nanorods into human skin hair follicles: Effect of nanoparticle surface chemistry. Nouf N. Mahmoud, Alaaldin M. Alkilany, Dörthe Dietrich, Uwe Karst, Amal G. Al-Bakri, **Enam A. Khalil**. *Journal of Colloid and Interface Science*, 503, 95–102. **2017**.
doi: 10.1016/j.jcis.2017.05.011
- A prodrug approach to enhance azelaic acid percutaneous availability. Sara Al-Marabeh, **Enam Khalil**, Mohammad Khanfar, Amal G. Al-Bakri & Muhammed Alzweiri. *Pharmaceutical Development and Technology*, 1-9. **2017**.
doi:10.1080/10837450.2016.1200614
- Colloidal stability of gold nanorod solution upon exposure to excised human skin: Effect of surface chemistry and protein adsorption. Nouf N. Mahmoud, Khaled M. Al-Qaoud, Amal G. Al-Bakri, Alaaldin M. Alkilany, **Enam A. Khalil**. *International Journal of Biochemistry & Cell Biology*, 75 (2016) 223–231. **2016**.
doi: 10.1016/j.biocel.2016.02.020
- Physicochemical Characterization of Emulgel Formulated With Sepineo P 600, Sepineo SE 68 and Cosolvent Mixtures. **Enam A. Khalil**, Samia A. Majid, Ghadeer A. R.Y. Suaifan, Faisal T. Al-Akayleh, Al-Sayed A. Sallam. *Pharmaceutical Development and Technology*, 21(5):519-27. **2015**.
doi:10.3109/10837450.2015.1022789

- Antiproliferative Activity of Selected Non-Steroidal Anti-Inflammatory Agents: Role of Iron Complexes. Rana Abu-Dahab, **Enam Khalil**, Ayman Khdair, Dina El-Sabawi, Imad Hamdan. *Jordan Journal of Pharmaceutical Sciences*, 7, 49-66, **2014**.
- Characterization of the 9L gliosarcoma implanted in the Fischer rat: an orthotopic model for a grade IV brain tumor. Bouchet Audrey, Bidart Marie, Miladi Imen, Le Clec'h Céline, Serduc Raphaël, Coutton Charles, Regnard Pierrick, **Khalil Enam**, Dufort Sandrine, Lemasson Benjamin, Laissue Jean, Pelletier Laurent, Le Duc Géraldine. *Tumor Biology*, 16 March **2014**.
[DOI 10.1007/s13277-014-1783-6]
- Effect of Ethylcellulose and Propylene Glycol on the controlled- release performance of Glyceryl monooleate – Mertronidazole periodontal gel. Al-Sayed Sallam, Firas Faleh Hamudi, **Enam Ayoub Khalil**. *Pharmaceutical Development and Technology*, 1-10, **2013**.
[DOI: 10.3109/10837450.2015.1022789]
- Studies on the kinetics of killing and the proposed mechanism of action of microemulsions against fungi. Ibrahim S.I. Al-Adham, Hana Ashour, Elham Al-Kaissi, **Enam Khalil**, Martin Kierans, Phillip J. Collier. *International Journal of Pharmaceutics*. **454**, 226– 232, **2013**.
- Chalcone JAI-51 improves efficacy of synchrotron microbeam radiation therapy of brain tumors. Audrey Bouchet, Ahcene Boumendjel, **Enam Khalil**, Raphael Serduc, Elke Brauer, Erik Albert Siegbahn, Jean Albert Laissue and Jean Boutonnat. *J. Synchrotron Rad.* **19**, 478-482, **2012**
- Formulation and Characterization of IPM/Water/Nonionic-Ionic Surfactant Microemulsions. **Enam Khalil**, Shorouq T. Al-Sotari and Mutasem Taha. *Journal of Chemistry and Chemical Engineering*, 6, 187-198, **2012**
- The Antimicrobial Activity of Oil-Water Microemulsions is Predicted by their position the Microemulsion Stability Zone. Al-Adham, I.S.I., Al-Nawajeh, A.S.M, **Khalil, E.** Collier, P.J. *The international Arabic Journal of Antimicrobial Agents*, 2(2), 1-8, **2012**.
- Towards an Image-Guided Microbeam Radiation Therapy Using Gadolinium-Based Nanoparticles. Géraldine Le Duc, Imen Miladi, Christophe Alric, Pierre Mowat, Elke Brauer-Krisch, Audrey Bouchet, **Enam Khalil**, Claire Billotey, Marc Janier, François Lux, Thierry Epicier, Pascal Perriat, Stéphane Roux, and Olivier Tillement. *ACS Nano*, 5 (12) 9566–9574, **2011**.
- Preferential effect of synchrotron microbeam radiation therapy on intracerebral 9L gliosarcoma vascular networks. A. Bouchet, B. Lemasson, G. Le Duc, C. Maisin, E. Bräuer-Krisch, E. A. Siegbahn, Luc Renaud, **E. Khalil**, C. Rémy, C. Poillot, A. Bravin, J. A. Laissue, E. L. Barbier, R. Serduc. *International Journal of Radiation Oncology Biology. Physics*. 78,1503-1512, **2010**.
- Evaluation of the wound healing effect of some Jordanian traditional medicinal plants formulated in Pluronic F127 using mice (*Mus musculus*). **Enam Khalil**,

Fatma U. Afifi and Maysa Al-Hussaini. *Journal of Ethnopharmacology*. 109, 104-112, **2007**.

- Release characteristics of diclofenac diethylamine from emulgels containing Pluronic F127. **Enam Khalil**, U.F. Schaefer and A. Sallam. *Journal of Drug Delivery Science and Technology*. 16(5)381-387, **2006**.

- Glucose partition coefficient and diffusivity in the lower skin layers. **Enam Khalil**, Kosmas Kretsos and Gerald Kasting. *Pharmaceutical Research*. 23, 1227-1234, **2006**.

- Studies on the in vivo hypoglycemic activities of two medicinal plants used in the treatment of diabetes in Jordanian traditional medicine following intranasal administration. F.U. Afifi, B. Al-Khalidi and **E. Khalil**. *Journal of Ethnopharmacology*. 100, 314-318, **2005**.

- QSPR modeling of pseudoternary microemulsions formulated employing lecithin surfactants: Application of data mining, molecular and statistical modeling. Mutasem O. Taha, Hiba Abdel-Halim, Mutasim Al-Ghazawi and **Enam Khalil**. *International Journal of Pharmaceutics*. 295, 135-155, **2003**.

- Characterization of two diclofenac diethylamine emulgels by their in vitro release and their interaction with human skin. A.Sallam, **Enam Khalil**, and Ulrich F. Schaefer. *STP Pharma Sciences*. 13, 405-413, **2003**.

- Microemulsions are highly effective anti-biofilm agents. I.S.I.Al Adham, N.D. Al-hmoud, **E.Khalil**, M. Kierans and P.J. Collier. *Letters in Applied Microbiology*. 36, 1-4, **2003**.

- Formulation of an oral dosage form utilizing the properties of cubic liquid crystalline phases of glyceryl monooleate. Sayed Sallam, **Enam Khalil**, Hussain Ibrahim , Ibtisam Freij. *European Journal of Pharmaceutics and Biopharmaceutics*. 53, 343-352, **2002**.

- Development of quantitative structure-property relationship model for pseudoternary microemulsion formulated with nonionic surfactants and cosurfactants: application of data mining and molecular modeling. Mutasem O. Taha, Mutasim Al-Ghasawi, Hend Abu-Amara, **Enam Khalil**. *European Journal of Pharmaceutical Sciences*. 15, 461-478, **2002**.

- Aqueous solubility of diclofenac diethylamine in the presence of pharmaceutical additives: A comparative study with diclofenac sodium. **Enam Khalil**, S. Najjar and A. Sallam. *Drug Development and Industrial Pharmacy*. 26, 375-381, **2000**.

- Content uniformity and dissolution characteristics of prednisolone Avicel PH200 interactive powder mixture: A comparative study with Emcompress and lactose granules. **Enam Khalil** and A. Sallam. *STP Pharma Sciences*. 10, 149-155, **2000**.

- Microemulsions are membrane-active antimicrobial, self preserved systems. Ibrahim S.I Al-Adham, **Enam Khalil**, Nisreen D. Al-Hmoud, Martin Kierans, and Phillip J. Collier. *Journal of Applied Microbiology*. 89,32-39, **2000**.
- Interaction of two diclofenac acid salts with copolymers of ammoniomethacrylate: Effect of additives and release profiles. **Enam Khalil** and A.Sallam. *Drug Development and Industrial Pharmacy*. 25, 419-427, **1999**.
- A model drug release from different solubilized systems. **Enam Khalil**. *Alexandria Journal of Pharmaceutics*. 13, 5-9, **1999**.
- Effect of isoorientin isolated from *Arum palaestinum* on uterine smooth muscle rats and guinea pigs. F.U. Afifi, **Enam Khalil**, S. Abdalla. *Journal of Ethnopharmacology*. 65, 173-177, **1999**.
- Evaluation of fast disintegrants in Terfenadine tablets containing a gas-evolving disintegrants. E.Sallam; H.Ibrahim; R. Abu-Dahab; M. Shubair; **E. Khalil**. *Drug Development and Industrial Pharmacy*. 24, 501-507, **1998**.
- Effect of the aqueous extract of *Laurus nobilis* seeds on ethanol-induced gastric ulcer in rats. F.U.Afifi, S.O.Tamimi, **Enam Khalil** and A.Disi. *Alexandria Journal of Pharmaceutics*. 11, 127-129, **1997**.
- Evaluation of the gastroprotective effect of *Laurus nobilis* seeds on ethanol induced gastric ulcer in rats. U. Afifi, **Enam Khalil**, S.O.Tamimi, and A. Disi. *Journal of Ethnopharmacology*. 58, 9-14, **1997**.

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Research Gate link: https://www.researchgate.net/profile/Enam_Khalil

Google Scholar link: <https://scholar.google.com/citations?user=AKKq1coAAAAJ&hl=en>

ORCID (ID): [0000-0002-5878-443X](https://orcid.org/0000-0002-5878-443X)

Researcher ID: C-7042-2015

Extension: 23325