

*Curriculum Vitae* of  
**Rana Mohammed Khalid Obeidat**

*Director of Research Office and Pharmaceutical Research  
at Jordan University Hospital  
Professor in Pharmaceutical Technology*

**The University of Jordan**

**Name:** Rana Mohammed Obeidat  
**Sex:** Female  
**Marital Status:** Married (3 children).  
**Nationality:** Jordanian  
**Current Address:** Amman, Jordan

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**Education:**

[2000-2004] Ph.D. / Pharmaceutical Technology  
*Thesis "Kinetics of solid-state transformations of fluconazole"*  
**Jordan University of Science and Technology**

[1996-1999] MSc. / Pharmaceutical Technology  
*Thesis "Development and characterization of sustained release formulation of tramadol hydrochloride"*  
**Jordan University of Science and Technology**

[1991-1996] B.Sc. / Pharmacy  
**Jordan University of Science and Technology**

**Professional Experience:**

**Feb. 2023- Up to date** Director of Research Office and Pharmaceutical Research  
*Jordan University Hospital*

**Feb. 2023- Up to date** Professor in Pharmaceutical Technology  
*The University of Jordan*

**Feb. 2018-Feb. 2023** Professor in Pharmaceutical Technology  
*Jordan University of Science and Technology*

**Sep. 2018- Sep. 2021** Director of Pharmaceutical Research Center (PRC-JUST)  
*Jordan University of Science and Technology*

**Sep.2012-Feb. 2018** Associate Professor/ Faculty of Pharmacy  
*Jordan University of Science and Technology*

**Sep 2015-Sep 2017** Vice Dean/ Faculty of Pharmacy  
*Jordan University of Science and Technology*

**Sep. 2011- Sep. 2013** Assistant Dean/ Faculty of Pharmacy  
*Jordan University of Science and Technology*

**Sep. 2010-Sep. 2011** Assistant Professor/ Faculty of Pharmacy  
*Jordan University of Science and Technology*

**Nov. 2009-Sep. 2010** Visiting Assistant Professor at  
*Leslie Dan Faculty of Pharmacy,  
University of Toronto, Canada*

**Sep. 2004- Nov. 2009** Assistant Professor at *Al-Zaytoonah University of Jordan*

**Publications:**

- 1)** Tamara Athamneh, Anja Hajnal, Mohammad A.A. Al-Najjar, Areen Alshweiat, **Rana Obaidat**, Alaa Abu Awad, Ruaa Al-Alwany, Julia Keitel, Dongwei Wu, Helena Kieserling, Sascha Rohn, Claudia Keil, Pavel Gurikov. In vivo tests of a novel wound dressing based on agar aerogel, *International Journal of Biological Macromolecules*,239, 2023.
- 2)** Mo'tasem M. Alsmadi, Nusaiba K. Al-Nemrawi, **Rana Obaidat**, Anwar E. Abu Alkahi, Khetam M. Korshed, and Ishraq K. Lahlouh. Insights on The Mapping Between The Green Synthesis Conditions of Zinc Oxide Nanoparticles and Their Toxicokinetics. *Nanomedicine* (2022). Accepted on: 9/9/2022
- 3)** Rania Hamed \*, Amani D. Abu Kwiak, Yasmeen Al-Adhami, Alaa M. Hammad, **Rana Obaidat**, Osama H. Abusara, Rana Abu Huwajj . Microemulsions as Lipid Nanosystems Loaded into Thermoresponsive In Situ Microgels for Local Ocular Delivery of Prednisolone. *Pharmaceutics*, 2022 Sep 19;14(9):1975. doi: 10.3390/pharmaceutics14091975.
- 4)** Mashaqbeh H, **Obaidat R**, Al-Shar'i NA. Evaluation of EDTA Dianhydride Versus Diphenyl Carbonate Nanosponges for Curcumin. *AAPS PharmSciTech*. 2022 Aug 17;23(7):229. doi: 10.1208/s12249-022-02372-z. PMID: 35974237.
- 5)** Mashaqbeh H, **Obaidat R**, Al-Shar'i NA, El-Elimat T, Alnabulsi S. Weak complexation of 5-fluorouracil with  $\beta$ -cyclodextrin, carbonate, and dianhydride crosslinked  $\beta$ -cyclodextrin: in vitro and in silico studies. *Res Pharm Sci*. 2022 Jul 14;17(4):334-349. doi: 10.4103/1735-5362.350235. PMID: 36034082; PMCID: PMC9400465.
- 6)** Alsmadi MM, Al-Daoud NM, **Obaidat RM**, Abu-Farsakh NA. Enhancing Atorvastatin In Vivo Oral Bioavailability in the Presence of Inflammatory Bowel Disease and Irritable Bowel Syndrome Using Supercritical Fluid Technology Guided by wbPBPK Modeling in Rat and Human. *AAPS PharmSciTech*. 2022 May 18;23(5):148. doi: 10.1208/s12249-022-02302-z. PMID: 35585214.
- 7)** **Obaidat R**, Al-Ghzawi B, Al-Taani B, Al-Shar'i N. Co-crystallization of Amoxicillin Trihydrate and Potassium Clavulanate Provides a Promising Approach for Preparation of Sustained-Release Microspheres. *AAPS PharmSciTech*. 2022 May 2;23(5):131. doi: 10.1208/s12249-022-02273-1. PMID: 35501579.
- 8)** **Rana Obaidat**, Ayat Abu Shameh, Mohannad Aljarrah and Rania Hamed. "Preparation and Evaluation of Polyvinylpyrrolidone Electrospun Nanofiber Patches of Pioglitazone for the Treatment of Atopic Dermatitis." *AAPS PharmSciTech* 23 (2022): 1-19.
- 9)** Mashaqbeh, Hadeia, **Rana Obaidat**, and Nizar Al-Shar'i. 2021. "Evaluation and Characterization of Curcumin- $\beta$ -Cyclodextrin and Cyclodextrin-Based Nanosponge Inclusion Complexation" *Polymers* 13, no. 23: 4073. <https://doi.org/10.3390/polym13234073>
- 10)** **Obaidat R**, BaniAmer F, Assaf SM, Yassin A. Fabrication and Evaluation of Transdermal Delivery of Carbamazepine Dissolving Microneedles. *AAPS PharmSciTech*. 2021 Oct 19;22(8):253. doi: 10.1208/s12249-021-02136-1. PMID: 34668082.

- 11)** Rana Obaidat, Haneen Aleih, Hadeia Mashaqbeh, Bashar Altaani, M Alsmadi Mo'tasem, Mohammad Alnaief. Development and evaluation of cocoa butter taste masked ibuprofen using supercritical carbon dioxide. *AAPS PharmSciTech* **2021**, 22 (3):1-13.
- 12)** Mohammad Alnaief, Rana Obaidat, Mo'tasem M. Alsmadi. Preparation of Hybrid Alginate-Chitosan Aerogel as Potential Carriers for Pulmonary Drug Delivery *Polymers* **2020**, 12(10), 2223; <https://doi.org/10.3390/polym12102223>
- 13)** Bashar Al-Taani, Rana Obaidat, Wala Malkawi. Enhancement of Dissolution of Atorvastatin through Preparation of Polymeric Solid Dispersions Using Supercritical Fluid Technology. *Res. Pharm. Sci.* **2020** Apr; 15(2): 123–136.
- 14)** Mo'tasem M. Alsmadi, Rana M. Obaidat, Mohammad Alnaief, Borhan Aldeen Albiss, Nabil Hailat. Development, In-Vitro Characterization and In-Vivo Toxicity Evaluation of Chitosan-Alginate Nanoporous Carriers Loaded with Cisplatin for Lung Cancer Treatment. *AAPS PharmSciTech.* **2020**.
- 15)** Rana M Obaidat, Mai Khanfar, Rand Ghanma. A Comparative Solubility Enhancement Study of Cefixime Trihydrate Using Different Dispersion Techniques. *AAPS PharmSciTech*, 20(5):194. **2019**. DOI: 10.1208/s122490191395-y.
- 16)** Rawda Yaseen AlSheyyab, Rana Mohammad Obaidat, Yara Radi Altall, Rana Talal Abuhuwaij, Rand Radwan Ghanma, Anoud Sameer Ailabouni, Hadeia Ahmad Mashaqbeh, Shayma Al-Haj. Solubility enhancement of nimodipine through preparation of Soluplus® dispersions. *Journal of Applied Pharmaceutical Science*, Vol. 9(09), pp 030-037, September, **2019**. DOI: 10.7324/JAPS.2019.90905
- 17)** M Alnaief, R Obaidat, H Mashaqbeh. Loading and evaluation of meloxicam and atorvastatin in carrageenan microspherical aerogels particles. *Journal of Applied Pharmaceutical Science*, Vol. 9(01), pp 083-088, **2019**. DOI: 10.7324/JAPS.2019.90112
- 18)** Rana Obaidat, Mohammed Alnaief, Hadeia Mashagbeh. Investigation of Carrageenan aerogel microparticles as potential drug carrier. *AAPS PharmSciTech*, July **2018**, volume 19, Issue 5, 2226-2236.
- 19)** Rana Obaidat, Mohammed Alnaief & Philip Jaeger. Significant solubility of carbon dioxide in Soluplus® facilitates impregnation of ibuprofen using supercritical fluid technology, *Pharmaceutical Development and Technology*, (**2018**) , 23:7, 697705, DOI: 10.1080/10837450.2017.1315135
- 20)** Mohammad Alnaief, Rana Obaidat, Hadeia Mashaqbeh. Effect of processing parameters on preparation of carrageenan aerogel microparticles. *Carbohydrate polymers*, **2018**. DOI: 10.1208/s12249-018-1021-4.
- 21)** Nizar A. Al-Shar'i , and Rana M. Obaidat. Experimental and Computational Comparative Study of the Supercritical Fluid Technology (SFT) and Kneading Method in Preparing  $\beta$ -Cyclodextrin Complexes with Two Essential Oils (Linalool and Carvacrol). *AAPS PharmSciTech*, **2018** Apr;19(3):1037-1047. doi: 10.1208/s12249-017-0915-x. Epub 2017 Nov 13.
- 22)** AlSheyyab RY, Al-Taani BM, Obeidat RM, Alsmadi MM, Masaedeh RK, Sabat RN. Delivery of peptidic Gonadotropin Releasing Hormone Antagonists, *Curr Drug Deliv.* **2018**:15 (15):602-609. doi: 10.2174/1567201815666180214142300.

- 23)** Rafeef Masadeh, **Rana Obaidat**, Mo'tasem Alsmadi<sup>1</sup>, Bashar Altaani<sup>1</sup>, Mai Khanfar, Rawda Alshyab, Mohammed Qaoud. Technical Insight of biodegradable Polymers Used in Implants, *Jordan Journal of Pharmaceutical Sciences*, Accepted for publication January 15<sup>th</sup> **2018**.
- 24)** Mohammad Alnaief, **Rana Obaidat**, Hadeia Mashaqbeh, Effect of processing parameters on preparation of carrageenan aerogel microparticles, *Carbohydrate Polymers*, Volume 180, 15 January **2018**, Pages 264-275, ISSN 0144-8617, <https://doi.org/10.1016/j.carbpol.2017.10.038>.
- 25)** AlSheyyab, Rawda Y.; Al-Taani, Bashar M.; **Obaidat, Rana M.**; Alsmadi, Motasem M.; Masaedeh, Rafeef K.; Sabat, Raghda N. Delivery of Peptidic Gonadotropin Releasing Hormone Antagonists. *Current Drug Delivery*, Volume 15, Number 5, 2018, pp. 602-609(8).  
DOI: <https://doi.org/10.2174/1567201815666180214142300>
- 26)** Alnaief M, Mohammad BT, Aljarrah M, **Obaidat R.** Preparation and preliminary characterization of hybrid alginate – carrageenan aerogel; effect of gelation methods. *Jordanian Journal of Physics*. 2018
- 27)** **Rana Obaidat**, Bashar Al-Taani, Hanan Al-Quraan. Effect of Selected Polymers on Dissolution and Stabilization of Amorphous Form of Meloxicam. *International Journal of Pharmacy and Pharmaceutical Sciences*, 9 (9): 33-424, **2017**.
- 28)** Gubran Khalil Mohammed, **Rana M. Obaidat**, Shereen Assaf, Mai Khanfar, Bashar Al-Taani. Formulations and Technologies in Growth Hormone Delivery. *International Journal of Pharmacy and Pharmaceutical Sciences*, 9 (7): 1-12, **2017**.
- 29)** **Rana M. Obaidat**, Bashar Al-Taani, Anoud Ailabouni. Effect of Different Polymeric Dispersions on In-Vitro Dissolution rate and Stability of Celecoxib Class II Drug. *Journal of Polymer Research*. 24 (58): 1-14, **2017**. DOI 10.1007/s10965017-1215-6
- 30)** **Rana M. Obaidat**, B Tashtoush, A Shwayyat, Enhancement of Tacrolimus Dissolution through Preparation of Solid Dispersions. *Lat. Am. J. Pharm.* 36 (2): 35565 (**2017**).
- 31)** **Rana M. Obaidat**, N Al-Shar'i, B Tashtoush, T Athamneh, Enhancement of levodopa stability when complexed with  $\beta$ -cyclodextrin in transdermal patches. *Pharmaceutical Development and Technology*, 1, 1-12, **2016**. DOI: [10.1080/10837450.2016.1245319](https://doi.org/10.1080/10837450.2016.1245319).
- 32)** **Rana M. Obaidat**, Bassam M. Tashtoush, Alaa Abu Awad, and Rana T. Al Bustami. Using Supercritical Fluid Technology (SFT) in Preparation of Tacrolimus Solid Dispersions *AAPS PharmSciTech* ( **2016**). DOI: 10.1208/s12249-0160492-4.
- 33)** **Rana M. Obaidat**, Bassam M. Tashtoush, Mohammad F. Bayan, Rana T. Al Bustami, and Mohammad Alnaief. Drying using supercritical fluid technology as a potential method for preparation of chitosan aerogel microparticles. *AAPS PharmSciTech*, 12 March **2015**. doi: 10.1208/s12249-015-0312-2.

- 34) Rana Obaidat**, Darryl Yu, Steve Aljawhiri and Robert Macgregor Jr. Moderate hydrostatic pressure–temperature combinations for inactivation of *Bacillus subtilis* spores. *High Pressure Research*, May **2015**. doi: 10.1080/08957959.2015.1055560.
- 35) Rana M Obaidat**, Ammar Bader, Wafa Al-Rajab, Aiman Obaidat, and Ghassan Abu Sheikha. Preparation of mucoadhesive oral patches of Tetracycline hydrochloride and Carvacrol: A promising novel oral combination for local mouth bacterial infections and Candidiasis. *Sci Pharm.*, 79, 179-212, **2011**. doi:10.3797 / scipharm.1004-18. ISSN: 0036-8709.
- 36)** Kamal Sweidan, Abdel-Motalleb Jaber , Nawzat Al-jbour, **Rana Obaidat**, Mayyas Al-Remawi, Adnan Badwan. Further investigation on the degree of deacetylation of chitosan determined by potentiometric titration. *Journal of Excipients and Food Chemicals*, 2 (1), 16-24, **2011**. ISSN number: 2150-2668.
- 37)** Aiman A. Obaidat, **Rana M. Obaidat**. Development and evaluation of fastdissolving tablets of meloxicam- $\beta$ -cyclodextrin complex prepared by direct compression. *Acta Pharmaceutica*. 61, 83-91, **2011**. ISSN 1330-0075, eISSN 18469558.
- 38)** Rana Abu-Huwaij, **Rana M Obaidat**, Kamal Sweidan, and Yusuf Al-Hiari. Formulation and in vitro evaluation of xanthan gum/carbopol 934-based mucoadhesive patches, loaded with nicotine, *AAPS PharmSciTech*, 1-7, **2010**. doi: 10.1208/S12249010-9534-5. ISSN: 15309932.
- 39) Rana Obaidat**, Nawzat Al-Jbour, Khaldoun Al-Sou'd, Kamal Sweidan, Mayyas AlRemawi, Adnan Badwan. Some physicochemical properties of low molecular weight chitosans and their relationship to conformation in aqueous solution. *J Solution Chem*, 39, 575–588, **2010**. ISSN: 0095-9782, eISSN: 1572-8927.
- 40) Rana M Obaidat**, Kamal Sweidan, Wafa Al-Rajab, Mai Khanfar, Rana AbuHwaij. Development of local, mucoadhesive, sustained release patches of tetracycline hydrochloride for treatment of mouth infections: a preliminary in vitro study. *European Journal of Parenteral & Pharmaceutical Sciences*, 15(4): 87-94, **2010**. ISSN: 09644679.
- 41)** Shereen Assaf, Mai Khanfar, **Rana Obaidat**, Mutaz S. Salem, and Adi Areeda, Effect of Different Organic solvents on crystal habits of mefanimic acids, *Jordan Journal of Pharmaceutical Sciences*, 2 (2), 150-158, **2009**. ISSN: 1995-7157.
- 42) Rana Obaidat**, Khoulood A. Alkhamis, Mutaz S. Salem, Determination of Factors Affecting Kinetics of Solid State Transformation of Fluconazole Polymorph II to Polymorph I Using Diffuse Reflectance Fourier Transform Infrared Spectroscopy. *Drug Development and Industrial Pharmacy*, 36 (5): 570-580, May, **2010**. ISSN: 03639045.
- 43)** Khoulood A. Alkhamis, Mutaz S. Salem, **Rana Obaidat**, Comparison Between Dehydration and Desolvation Kinetics of Fluconazole Monohydrate and Fluconazole Ethylacetate solvate Using Three Different Methods. *Journal of Pharmaceutical Sciences*, 95 (4), 859-870, **2006**. ISSN: 1520-6017.

- 44)** Mino R. Caira, Khoulood A. Alkhamis, **Rana M. Obaidat**, Preparation and crystal characterization of a polymorph, a monohydrate, and an ethyl acetate solvate of the antifungal fluconazole, *Journal of Pharmaceutical Sciences*, 93 (3), 601-611, **2004**. ISSN: 1520-6017.
- 45)** Aiman A. Obaidat, **Rana M. Obaidat**, Controlled release of tramadol hydrochloride from matrices prepared using glyceryl behenate, *European Journal of Pharmaceutics and Biopharmaceutics*, 52, 231235, **2001**. ISSN: 0939-6411.

### **Patents:**

- 1) Rana M. Obaidat**, Adnan Badwan. *US Patent*. Process of Producing and Method of Using Soluble High Molecular-Weight Chitosan. Issued January 9<sup>th</sup>, 2018. Application Number is 15413942. **US9862780B1** - Process of producing and method of using soluble high molecular-weight chitosan - [Google Patents](#)
- 2) Faisal Al-Akayleh**, Mayyas Rimawi, **Rana M. Obaidat**. A Pharmaceutical composition of Fentanyl and one or more fatty acids, and a method of preparation thereof, **PCT/JO2020050011**, **May 27th, 2022 under publication number WO2022107182**

### **Student Research Supervision:**

- 1) Aseel Jararwah** (2022-up to date). Institute of Nanotechnology, JUST. Advisor  
Thesis title:
- 2) Tasneem Odat** (2022- up to date). Co-advisor  
Thesis title: Investigation of the antibacterial activity of zinc oxide nanoparticles loaded in alginate/ hyaluronic acid aerogel for wound dressing applications
- 3) Baraah Jihad** (2020-2022). Al-Zaytoonah University of Jordan. Co-advisor  
Thesis title: Dermal Delivery of Anti-wrinkle Agent using Nanoemulsions and Nanoemulsion Loaded Gels
- 4) Anageem saleh al-radaideh** (2022-up to date). Co-advisor  
Thesis title: Nanoparticle-Encapsulated Microneedles for Levodopa and Carbidopa Combined Transdermal Delivery.
- 5) Ayat Ibrahim Almnyyes** (2022-up to date). Co-advisor  
Thesis title: Design of nanoparticles-encapsulated microneedles for transdermal delivery of rivastigmine for Alzheimer disease management.
- 6) Hatoun Saleh Al-Omary** (2022-up to date). Co-advisor  
Thesis title: Development of Prolonged-release Dutasteride Transdermal Delivery System for the Management of Benign Prostatic Hyperplasia
- 7) Haddya Mashaqbah** (2020-2022) PhD student. Advisor  
Thesis title: Development of Cyclodextrin Nanosponges Based System for Combined Therapy of Colorectal Cancer.
- 8) Mais Jaradat** (2019-up to date) Master Student. Advisor  
Thesis title: Formulation and Evaluation of the pharmacokinetics of Hydrochloroquine.

- 9) Ayat Abu-Shameh** (2019-2021) Master student. Advisor  
Thesis title: Preparation and evaluation of Pioglitazone loaded electrospun transdermal nanofiber patches.
- 10) Amani Abu-Kwaik** (2019-2021) Master student. Advisor  
Thesis title: Preparation and characterization of ibuprofen and metronidazole in situ microgel for the treatment of periodontitis.
- 11) Fatimah Bani-Amer** (2019-2021) Master student. Advisor  
Thesis title: Transdermal Drug Delivery System of Carbamazepine using Microneedles
- 12) Batool Al-Ghazawi** (2019-2021) Master student. Co-Advisor  
Thesis title: Microncapsulation of Fixed Dose Combination Drugs for Sustained Release Purposes
- 13) Furqan Nasif Jasim** (2020-2021, Alahliyya Aamman University). Co-advisor  
Thesis title: Preparation of Eco-friendly magnetic iron oxide nanoparticles using banana peels and study the anti-cancer and anti-microbial activity.
- 14) Noor Dawood** (2019-2021) Master student. Co-Advisor  
Thesis title: Evaluation of the effect of IBS and IBD on the pharmacokinetics of statins.
- 15) Haneem Alaieh** (2018-2019) Master student. Advisor  
Thesis title: Taste masking of Ibuprofen using Supercritical Fluid Technology
- 13) Baraa Wael Ibrahim** (2017-2019). Master student. Co-advisor.  
Thesis title: Preparation and characterizations of Lercanidipine nanosuspension using High Pressure Homogenizer
- 14) Tawfeeq Gabashneh** (2017-2018). Master student. Co-advisor.  
Thesis title: Clinical Evaluation of Locally Delivered 1.2% Rosuvastatin Gel in Treatment of Chronic Periodontitis.
- 15) Ahmad Shunnar** (2017-2018). Master student. Co-advisor.  
Thesis title: Transdermal delivery of apomorphine using microneedles and nanotechnology.
- 16) Rand Ghanma** (2016-2017). Master student. Advisor  
Thesis title: Effect of Selected Polymers on Solubility, Dissolution, and Stability of Cefixime trihydrate in Prepared Dispersions.
- 17) Haddya Mashaqbah** (2016-2018), Master student. Advisor  
Thesis title: Development of Carrageenan drug carrier using supercritical fluid technology.
- 18) Hind Ghaddya** (2016- 2018). Master student. Co-advisor.  
Thesis title: Development and evaluation of oral controlled release matrix tablet of paliperidone
- 19) Walaa Malkawy** (2014-2016), Master student. Advisor  
Thesis title: Enhancement of solubility of atorvastatin through preparation of solid dispersions.
- 20) Anoud Ailabouni** (2014-2016), Master student. Advisor  
Thesis title: Preparation and Evaluation of Solid Dispersion of Celecoxib
- 21) Hanan Al-Qura'an** (2014-2016), Master student. Advisor  
Thesis title: In vitro and in vivo evaluation of meloxicam by solid dispersion systems
- 22) Alaa Abu-Awad** (2013-2014), Master student. Advisor



Thesis title: Enhancement of bioavailability of Tacrolimus through supercritical fluid technology.

**23) Areen Shwayyat** (2013-2014), Master student. Co-advisor.

Thesis title: Preparation of solid dispersions of Tacrolimus.

**24) Tamara Athamneh** (2013-2014), Master student. Co-advisor

Thesis title: Preparation of Levodopa- $\beta$ -cyclodextrin complex for transdermal delivery.

**25) Mohammed Bayan** (2012-2013), Master student. Advisor

Thesis title: Preparation of microparticles for sustained release purposes using supercritical fluid technology.

### **Awards:**

- a. **Prince El-Hassan Bin Talal 1<sup>st</sup> Award for Scientific Excellence** “Establishment of Pharmaceutical Research Center at JUST: Vision Achieved 2020, File preparation and application by Rana Obaidat, the director of PRC-JUST.
- b. **Best Msc Thesis in Arab world for Haddya Mashaqbah under supervision of Advisor Rana Obaidat**, Development of Carrageenan drug carrier using supercritical fluid technology, **2019**, Application by Rana Obaidat.
- c. **Award for women in academia collaborating with the Pharmaceutical Industry in Jordan**, Jordanian Pharmaceutical Association, March 2018.
- d. **Prince El-Hassan Bin Talal third award for Scientific Excellence** “Establishment of PharmD Program in Jordan” for Faculty of Pharmacy at JUST, File Preparation of the application by Rana Obaidat, the assistant dean at Faculty of Pharmacy, 2012.

### **Research Interests:**

Polymeric behavior in Supercritical fluid Technology

Development of pulmonary drug delivery carriers using supercritical fluid technology.

Development and optimization of pressure sterilization methods for thermosensitive pharmaceutical materials.

Design and development of drug delivery systems.

Preformulation studies include polymorphism and physicochemical characterizations.

### **Consultation Services and collaboration with the pharmaceutical industry:**

**Rana Obaidat** and Bashar Altaani. Joint project with hikma pharmaceuticals. Development of fixed-dose combination products, 2018.

### **Grants Accomplished and On-going:**

- 1) Research grant 164/2022: Masking of The Bitter Taste Azithromycin Dihydrate Using pH-Sensitive Eudragit Polymer. **Budget: 5350 JD**
- 2) Research grant 53/2022: Physiologically Based Pharmacokinetics of a Novel Hydroxychloroquine Formulation Prepared Using Supercritical Fluid Technology for Pulmonary Administration. **Budget: 5450 JD**

- 3) Research grant 312/2021: Development of Cyclodextrin Nanosponges Based System for Combined Therapy of Colorectal Cancer. **Budget: 10000 JD**
- 4) Research grant 351/2020: Preparation and characterization of ibuprofen and metronidazole in situ microgel for the treatment of periodontitis. **Budget: 6000 JD**
- 5) Research grant 389/2020: Transdermal Drug Delivery System of Carbamazepine using Microneedles. **Budget: 6000 JD**
- 6) Research grant 260/2020: Preparation and evaluation of meclizine loaded electrospun transdermal nanofiber patches. **Budget: 6000JD**
- 7) Research grant 433/2019: Taste masking of Ibuprofen using Supercritical Fluid Technology  
**Budget: 6200 JD**
- 8) Research grant 404/2017: Preparation of nanoporous biomaterials based on mixture of different polymers as a potential drug carrier. **Budget: 13790 JD**
- 9) Research grant 171/2017: Effect of Polymers on Dissolution and Stability of Cefixime Trihydrate in Prepared Dispersions. **Budget: 6200 JD**
- 10) Research grant 9/2017: Preparation of Carrageenan Low Density Carrier Using Supercritical Fluid Technology.  
**Budget: 6500 JD**
- 11) Research grant SRFS 1/2015: Using supercritical fluid technology to prepare pulmonary drug delivery systems for treatment of lung cancer  
**Budget: 130.560 JD**
- 12) Research grant 206/2015: Enhancement of Solubility of atorvastatin through preparation of solid dispersions using supercritical fluid technology. **Budget: 6500 JD**
- 13) Research grant 206/2015: Development of Carrageenan drug carrier using supercritical fluid technology. **Budget: 6500**
- 14) Research grant 302/2014: Preparation and Evaluation of Solid Dispersion of Celecoxib.  
**Budget: 6100 JD**
- 15) Research grant 303/2014: In vitro and in vivo evaluation of meloxicam by solid dispersion systems. **Budget: 4850 JD**
- 16) Research grant 140/2013: Enhancement of bioavailability of Tacrolimus through supercritical fluid technology. **Budget: 6100 JD**
- 17) Research grant 13/2012: Preparation of microparticles for sustained release purposes using supercritical fluid technology. **Budget: 5650 JD**
- 18) Research grant 13/2011: Preparation of cyclodextrin complexes with essential oils using SCF technology. **Budget: 12500 JD**
- 19) Research Grant: Formulation of buccal drug delivery systems for local and systemic uses. Al-Zaytoonah University of Jordan, 2008. **Budget: 5200 JD**

### **Presentations & Conferences:**

- 1) **Rana Obaidat**, Opportunities Between Academia and Pharmaceutical Industry, JFDA Third International Conference on Pharmaceuticals, 5-6 June 2023.
- 2) **Rana Obaidat**, Innovation in Pharmacy, Panelist Speaker, 16 May 2023.
- 3) **Rana Obaidat**, Supercritical Fluid Technology From Concepts into Pharmaceutical Applications, Recent Trends in Pharmaceutical Research, The third Conference for the Faculty of Pharmacy at Yarmouk University, 9-10 May, 2023.
- 4) **Rana Obaidat**, Chair of pharmaceutics session, Al-Zaytoonah 8<sup>th</sup> International Pharmaceutical Conference 2022 (ZIPC 2022), Amman, Jordan, 18-19\10\2022.
- 5) **Rana Obaidat**, Chair of session, The 4th MENA Regulatory Conference on Bioequivalence, Biowaivers, Bioanalysis, and Dissolution, Grand Hayat, Amman, Jordan, 18-19\9\2022.
- 6) **Rana Obaidat**. Co-chair of the pharmaceutical technology session. The 17th Scientific Annual International Conference for Business (SICB2020) at AlZaytoonah University of Jordan, **2020**.
- 7) **Rana Obaidat**, Organizer and speaker. Supercritical Fluid Technology and its application in Pharmaceutical Technology, Amman, Jordan, 2019.
- 8) **Rana Obaidat**. Speaker. Regional Clinical Research Forum, Istanbul, Turkey, 2019.
- 9) **Rana M. Obaidat**, Wala Malkawi, Bashar AlTaani. 11th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology. Employing Supercritical Fluid Technology as a Solvent-Free Method for Preparation of Dispersions for Atorvastatin. Granada, Spain, **2018**.
- 10) **Rana M. Obaidat**. Co-chair of the pharmaceutical technology session. ZTIPC2017, **2017**.
- 11) **Rana M. Obaidat**, **Mohammed Alnaief**, Haddia Mashaqbah. Investigation of Carrageenan Aerogels as a Potential Drug Carrier. ZTIPC2017, **2017**.

- 12) **Rana M. Obaidat**, Mohammed Alnaief. Potentials of supercritical fluid technology for the pharmaceutical industry, Yarmouk First Pharmacy Conference, 22-23/11/2017.
- 13) **Rana M. Obaidat**, Alaa AbuAwad, Bassam Tashtoush, Rana AlBustami, Enhancement of Tacrolimus dissolution by preparation of solid dispersions using super critical fluid technology, JIPC 2015, 2015.
- 14) **Rana M. Obaidat**, Kamal Swaidan, Solution Properties of Chitosan Oligomers, JIPC 2008, 2008.
- 15) **Rana M. Obaidat**, Khoulood A. Alkhamis. Factors affecting polymorphic transformation, JIPC2006, 2006.
- 16) **Rana M. Obaidat**, Khoulood A. Alkhamis, Mutaz Sheikh Salem, Studying polymorphic transformations, The Thirteen Pharmaceutical Conference/ Jordan, 2005.
- 17) Khoulood A. Alkhamis, Mutaz Sheikh Salem, **Rana M Obaidat**, Dehydration kinetics of fluconazole monohydrate, presented at the 18<sup>th</sup> Annual Meeting of the American Association of Pharmaceutical Scientist (AAPS PharmSci, 5 (4), Abstract M1179), Salt Lake City, Utah, October 2003.
- 18) Khoulood A. Alkhamis, Mutaz Sheikh Salem, **Rana M Obaidat**, Studying Transformation Kinetics of Fluconazole Polymorph II to polymorph I Using Diffuse Reflectance Infrared Spectroscopy (DRIFTS), AAPS PharmSci, 6 (4), Abstract M1242, Salt Lake City, Utah, October 2004.
- 19) Khoulood A. Alkhamis, Mutaz Sheikh Salem, **Rana M Obaidat**, Desolvation kinetics of fluconazole ethylacetate solvate, AAPS PharmSci, 6 (4), Abstract M1243, Salt Lake City, Utah, October 2004.
- 20) **Rana M. Obaidat**, and Aiman A. Obaidat, Development and characterization of sustained release formulation of tramadol hydrochloride, The Ninth Pharmaceutical Conference/ Jordan, 29/2-2/3/2000.

#### **Other Academic Activities:**

- 1)** Examiner for MSc Thesis Defense in other universities: (AlZarqaa University, 2022), (Al-Zaytoonah University of Jordan, 2021), (Al-Ahliyya Amman University, 2020), (Al-Zaytoonah University of Jordan, 2021).
- 2)** Accreditation committee member for several universities
- 3)** Reviewer for International Journals.

#### **Memberships, Scientific, Social and Administrative Activities:**

1. Safety Monitoring Committee (SMC member), US Military HIV Research Program (Oct. 2020-up to date)

2. Member in OWSD (Member ID: 13637) Organization for Women in Science for the Developing World.
3. Member in AAPS American Association of Pharmaceutical Scientists.
4. Community service: Sanitizer preparation for in-house use of the university during COVID-19 epidemic according to FDA guidelines.
5. Scientific activities for the Jordanian pharmaceutical association.
6. Chair and Founder of JUST Pharmacy Alumni (2017-up to date)
7. Member in department postgraduate committee (2016-up to date)
8. Member in Faculty Promotion Committee: (2019-2020)
9. Member in department research committee (2018-2019)
10. University Central Academic Quality committee (Sep. 2016-Sep. 2018)
11. Member in Faculty Lab Committee: (Sep. 2016-Sep. 2018)
12. Chair of the International Pharmacy Conference: Challenges versus Opportunities (2017)
13. Organizer of Medical First Aid for Pharmacy Students (2017).
14. JUST Graduate studies committee: (Sep 2015-up to date)
15. Chairman of Faculty Accreditation and ACPE Committee: (Sep 2016-Sep. 2018)
16. Chair of Conference Committee: (Sep 2015-Sep. 2018)
17. Faculty Quality Assurance Committee: (Sep 2016-Sep 2018)
18. Chair of Faculty Quality Assurance Committee: (Sep 2015-Sep 2016)
19. JUST Quality Assurance committee: (Sep 2015-Sep 2016)
20. JDA committee: Advisory committee “Drug Manufacturing Sites” (April 2014-April 2015)
21. Participation in Faculty For Factory Program: working with Jordan Manufacturing Company (JPM) in Summer course (June 2011 up to Sep 2011), Naour-Amman, Jordan.
22. Accreditation and Quality Assurance Committee: Faculty of Pharmacy, JUST, Sep 2011-Sep 2014
23. Conference Committee: Faculty of Pharmacy, JUST, Sep 2011- Sep 2015
24. Social Committee: Faculty of Pharmacy, JUST, Sep 2012- Sep 2014
25. Research Scientific Committee: Faculty of Pharmacy, JUST, Sep 2012- Sep 2013
26. Academic Plan Committee: Faculty of Pharmacy, JUST, Sep 2011-Sep 2013.
27. Faculty Website Committee: Faculty of Pharmacy, JUST, Sep 2011-Sep 2013.
28. Head of Quality Assurance Unit at Faculty of Pharmacy, AlZaytoonah University of Jordan, (2008- 2009).
29. Faculty Website committee at Faculty of Pharmacy, AlZaytoonah University of Jordan (2008- 2009)
30. Conference committee member at Faculty of Pharmacy, AlZaytoonah University of Jordan (2006- 2010).
31. IRB Committee member in Pharmaceutical Research Unit (2006-2007), Amman, Jordan.
32. Clinical Pharmacy Scientific day": committee member, Faculty of Pharmacy in JUST and KAUH in 2011.
33. Conference committee member in the Jordan International Pharmaceutical Conference

- 2010 “*JIPC 2010*”.
34. Scientific coordinator for Jordan International Pharmaceutical Conference 2008 “*JIPC 2008*”.
  35. Scientific committee member in the in Jordan Pharmaceutical Conference “*JPC2005*”.
  36. Scientific coordinator in Jordan International Pharmaceutical Conference at AlZaytoonah University (*JIPC 2006*).

### **Workshops and Professional training:**

1. **Innovation Management, Level 1: Innovation Associate, Global Innovation Management Institute (GIMI)**, 15 June 2022 (validity 5 years), King Abdallah II Center of Excellence, 15-17 Feb. 2022.
2. **Human Research, Group 3 Biomedical Investigators, Key Study Personnel, Research Monitors, 1 Basic course**, CITI training, 7 Oct. 2020.
3. **GCP training**, 12 June 2019.
4. **Statistics Using Minitab**. *Academic Development Center 2017*.
5. **Development of Academic Programs: Association of Arab Universities, 2016**.
6. **Accreditation Workshop**, *Academic Development Center 2016*.
7. **Endnote Workshop**, *Academic Development Center (28-29)/12/2015*.
8. **Open Educational Resources**, *Academic Development Center (1314)/9/2015*.
9. **Quality Assurance 2, Association of Arab Universities 2013. External Reviewers & Site Visit**.
10. **Quality Assurance 1, Association of Arab Universities. 2013**
11. **Testing and Evaluation**, *Academic Development Center 2012*.
11. **SPSS Training**, *Academic Development Center, 2011*.
12. **Internal Auditing and ISO 9000**, *Consultative Center for Science and Technology, 2012*.
13. **Training on data analyzing using SPSS**, *Consultative Center for Science and Technology, 2011*.
14. **Speaker** in “Waste disposal guidelines workshop for lab technicians”, AlZaytoonah University of Jordan, 2005.

### **Teaching Experiences:**

- 1) **Dosage Form Design:** A postgraduate course for MSc in pharmaceutical Technology program.
- 2) **Community Pharmacy Training Course:** An undergraduate course for BSc students of Pharmacy.

- 3) **Supercritical Fluid Technology Course:** A postgraduate course for Ph.D. in pharmaceutical Technology program.
- 4) **Advanced Pharmaceutical dosage form Technology:** A postgraduate course for MSc in pharmaceutical Technology program.
- 5) **Ionic Equilibria:** A postgraduate course for Ph.D. in pharmaceutical Technology program.
- 6) **Research Methodology:** A postgraduate course for Ph.D. in pharmaceutical Technology program.
- 7) **Research Methodology:** A postgraduate course for MSc in pharmaceutical Technology program.
- 8) **Seminar:** A postgraduate course for MSc in pharmaceutical Technology program.
- 9) **Advanced Physical Pharmacy:** A postgraduate course for MSc in pharmaceutical Technology program.
- 10) **Pharmaceutical Dosage Forms:** A postgraduate course for MSc in pharmaceutical Technology program.
- 11) **Pharmaceutics I:** Lectures include electrolytes, nonelectrolytes, buffers, isotonic solutions, ionic equilibria, and pharmaceutical solutions (syrups, elixirs, otic, ophthalmic, parenteral).
- 12) **Pharmaceutics II:** Lectures include rheology, interfacial phenomena, colloids, suspensions, transdermal drug delivery systems, aerosols.
- 13) **Pharmaceutics III:** Lectures include formulation and industrial aspects, stability, tablets, capsules, diffusion, and dissolution,
- 14) **Pharmacy Practice Lab III:** Experiments focused on industrial topics (capsules, tablets, diffusion, dissolution), Pharmaceutical search on drugs, dispensing drugs, and patient counseling.
- 15) **Physical Pharmacy (I):** (Lectures include the subjects of states of matter and phase rule, solutions of nonelectrolytes, electrolytes, pH calculation, buffered and isotonic solutions, solubility and distribution, and complexation and protein binding).
- 16) **Physical Pharmacy (II):** (Lectures include the subjects of kinetics, diffusion and dissolution, interfacial phenomena, colloids, rheology, micromeritics, and coarse dispersions).

- 17) Cosmetics:** (Lectures include the subjects of skin and skin products, Nail and nail products, hair and hair products, dental products).
- 18) Drug Delivery Systems:** (Lectures include transdermal drug delivery systems, nasal drug delivery systems, ocular drug delivery systems, intrauterine and vaginal drug delivery systems, polymer sciences, and drug carrier systems).
- 19) Physical Pharmacy (I) Practical Lab:** Experiments focused on practical aspects of the physical pharmacy (1) course.
- 20) Physical Pharmacy (I, II, III) Practical Lab:** Experiments focused on practical aspects of physical pharmacy (2) course.