

# Qamar Freih Abuhassan

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## Personal profile

My career objective is to contribute to teaching and achieving high-level standards to enhance the students' performance and contribution towards their study plan.

I'm currently an assistant professor, and a dictating biopharmaceutical researcher with an advanced experience in laboratory work, especially in testing the solubility of various orally administered drugs, and who have conducted an advanced laboratory training for incoming PhD students.

I'm a first author of four research papers published in the '*European journal of pharmaceutics and biopharmaceutics*'.

## Education

2019 November – 2024 May University of Strathclyde - United Kingdom

Doctor of Philosophy student (PhD) in Pharmacy and Biomedical Science Institution - Fourth year

- **Main research subject:**

In vitro/In silico study of the effect of a novel bioequivalent fasted simulated intestinal media on the solubility of oral dosage forms.

- **Supervisors:**

- 1- Dr Ibrahim Khadra; [ibrahim.khadra@strath.ac.uk](mailto:ibrahim.khadra@strath.ac.uk)
- 2- Prof. Gavin Halbert; [g.w.halbert@strath.ac.uk](mailto:g.w.halbert@strath.ac.uk)

- **Project description:**

- ❖ PhD study is in the biopharmaceutical research field, studying the effect of five intestinal components (pH, phospholipids, fatty acid, cholesterol, and bile salt), on the solubility of 21 poorly soluble oral drugs. This research was carried out using a freshly prepared fasted simulated small intestinal fluid (FaSSIF) at the University of Strathclyde's pharmaceutical laboratories, Glasgow-UK. The concentrations used for preparing the SIF media were depending on a recent novel study which used a multi-dimensional approach to determine nine bioequivalent SIF media, that corresponds to over ninety percent of HIF compositional variability (Pyper et al., 2020). The final solubility results were measured accurately using a High-Pressure Liquid Chromatography (HPLC) instrument, with a suitable HPLC column and mobile phases.
- ❖ Solubility application into the DCS grid, and investigating the solubility frequency distribution.
- ❖ Finding in vitro in vivo correlation and creating solubility boundaries.
- ❖ Supersaturation assays study using the Sirius InForm® instrument.
- ❖ PBPK modelling of fasted healthy human species, using GastroPlus® and PK-sim® softwares, to study the solubility effect of the prepared novel SIF media on the pharmacokinetics and bioavailability of the oral drugs.

**More discussion and results interpretation related to this research is found in my three published papers mentioned below.**

**2023 February – April University of Strathclyde**

- Upskilling ten credits of SCQF Level 7
- Effective listening skills module.

**2013 - 2018 University of Jordan- Jordan**

**BSc. Degree in Pharmacy, 'Very good' rating**

- Trainee at the Jordan University hospital at the gastrointestinal department.
- Trainee at different chain and community pharmacies; Dawakom, Saif, and Cafour.

**1999 - 2013 Dar Al-Arqam Islamic School**

**Scientific branch in high school- Average marks 94.4%**

**Research experience**

**2019 – 2022 University of Strathclyde- United Kingdom**

**Postgraduate demonstrator**

- Developed effective leadership and communication skills during the supervision of two PhD students in their practical laboratories work and the proper use of different instruments.

**2019 – 2021 Robertson wing- United Kingdom**

**Lab experience**

- Two full years of working in well-facilitated pharmaceutical analysis laboratories.
- Outstanding knowledge of laboratory procedures and techniques.
- Accurate weighing and concentration calculating techniques.
- Professional worker with different pharmaceutical instruments, such as HPLC, pH meter, centrifuge, shakers, sonicator, and analytical balances.
- Regular calibration and maintenance to all above instruments.
- Ability to handle toxic/flammable chemical reagent bottles safely, such as chloroform, Acetonitrile, Methanol, and formic acid.
- Vast experience in contacting well-known pharmaceutical companies, and ordering different active pharmaceutical ingredients and chemical solvents.
- Remarkable ability to conduct various research experiments.

**2019 – 2021 Technology and Innovation Centre- United Kingdom**

**Industrial Placement**

- I worked as part of Dr Ibrahim Khadra's group to study the effect of the intestinal component on oral drugs solubility in the fasted/fed states for adults and paediatrics.
- I developed my working knowledge of several powerful pharmaceutical analytical instruments such as HPLC and Sirius® Inform, through the extensive range of equipment available to access.
- I worked as part of the CMAC group in the Technology and Innovation Centre at the University of Strathclyde, to develop supersaturation techniques of poorly soluble drugs, using the Sirius Inform instrument.
- I modelled different oral dosage forms using PBPK modelling approach, by Gastroplus® and PK-sim® softwares.

**Statistical and IT experience**

**2019 – Present**

- Proficient in a range of statistical analysis and chemical programmes, including *Graph Pad Prism®*, *Minitab®* and *Chemdraw®*.
- Extensive knowledge of Microsoft office programs, such as *Word*, *Excel*, and *PowerPoint*.

- Exceptional knowledge of the different modelling software, such as *PK-Sim®* and *GastroPlus®*.
- Maintained knowledge in designing websites, such as *Canva*.

## **Voluntary experience**

### **Journal reviewer**

- Recognised reviewer at 'Pharmacia' and 'Saudi Journal of Biological Sciences' journals for editing and peer-reviewing research paper.

### **TED<sup>x</sup> University of Strathclyde organiser member**

*April/21 – October/21*

#### **Speakers and curator team**

- Committed member, participated in the evaluating and decision-making meetings of more than twenty applied speakers of the TED<sup>x</sup> University of Strathclyde conference.
- Advisor and editor of some speaker's TED talk scripts, with offering critical feedback to their ideas and performance.

*October/20 – April/21*

#### **Marketing and communication team**

- Dedicated member, committed to all weekly group meetings.
- Responsible for posting to four social media channels.
- Increased the engagement of the society's Instagram channel by around 1K followers.
- Designing multiple social media content, mainly using the Canva website.
- Marketing and participating in salon events, such as TED<sup>x</sup> University of Strathclyde Mental Health and Wellbeing event.

*TED<sup>x</sup> University of Strathclyde annual ideas conference*

#### **Theme: resilience reignited**

- Active and integral organiser of the TED<sup>x</sup> University of Strathclyde conference, which included different motivating and educational talks, including valuable speakers such as *the Lord Provost and counsellor Philip Braat, Prof. Sir Jim McDonald, and Princess of Oman her highness Basma al Said.*

## **Skills and abilities**

### **Management**

- Excellent in time management and advanced events planning and organisation, which was attained by organizing TED<sup>x</sup> '*Resilience Reignited*' conference 2021.
- Critical thinking and strategic problem solving, especially in laboratory-based environments.
- Always adheres to deadlines, which was reflected by submitting all the work assignment on time.
- Capability to take measured risks as demonstrated through research during my PhD.
- Attention to details and awareness to priorities, as gained by the successful position I reached in my PhD publishing and researching.

### **Relationships**

- Self-motivated team leader with a high capability to allocate tasks to other team members and supervise them constructively.
- Team worker in different team roles; cooperating, delegating, and leading, which was reflected on my research group.
- Offering help and assistance to colleagues when needed.

## **Communication**

- High professionalism in oral and writing communications and presenting skills, conducted by being part of TED<sup>x</sup> University of Strathclyde society.
- Confident networking and easy-integration in a multicultural environment.
- Uses social media platforms effectively.
- Being persuasive in different spoken and written situations, as attained by undertaking different PhD courses from different disciplines.

## **Languages**

- Native Arabic speaker
- Fluent English speaker
- Very good Turkish speaker

## **Scholarships**

### **Elite Scholarship**

- Faculty of science Elite scholarship: received an award of £3000 for each year of study, up to a maximum of three years, towards tuition fees for the PhD in the Strathclyde Institute of Pharmacy and Biomedical Sciences.

## **Publications**

- Abuhassan, Q., Khadra, I., Pyper, K. and Halbert, G.W., 2021. Small scale in vitro method to determine a bioequivalent equilibrium solubility range for fasted human intestinal fluid. *European Journal of Pharmaceutics and Biopharmaceutics*, 168, pp.90-96.  
<https://doi.org/10.1016/j.ejpb.2021.08.002>
- Abuhassan, Q., Khadra, I., Pyper, K., Augustijns, P., Brouwers, J. and Halbert, G.W., 2022. Fasted intestinal solubility limits and distributions applied to the biopharmaceutics and developability classification systems. *European Journal of Pharmaceutics and Biopharmaceutics*, 170, pp.160-169.  
<https://doi.org/10.1016/j.ejpb.2021.12.006>
- Abuhassan, Q., Khadra, I., Pyper, K., Augustijns, P., Brouwers, J. and Halbert, G.W., 2022. Structured solubility behaviour in bioequivalent fasted simulated intestinal fluids. *European Journal of Pharmaceutics and Biopharmaceutics*, 176, pp.108-121.  
<https://doi.org/10.1016/j.ejpb.2022.05.010>
- Abuhassan, Q., Silva, M.I., Tamimi, R.A.R., Khadra, I., Batchelor, H.K., Pyper, K. and Halbert, G.W., 2024. A novel simulated media system for in vitro evaluation of bioequivalent intestinal drug solubility. *European Journal of Pharmaceutics and Biopharmaceutics*, 199, p.114302.  
<https://doi.org/10.1016/j.ejpb.2024.114302>

## **Conferences attended**

### **Academic**

- Controlled release society conference/ June 2020.
- Doctoral school multidisciplinary symposium/ May 2020.
- The Scotsman life sciences conference/ December 2020.
- World conference on Pharmacometrics-PBPK modelling/ April 2022.
- Controlled release society conference/ Nov 2022

**Non-academic**

- Thriving after massive global disruption thought leadership series/ May-July 2020.
- TEDx University of Strathclyde/ October 2021.

**Main courses attended**

- Apply design thinking for your research.
- Communication with confidence: nerves, resilience, and pro-resilience.
- Keeping on top of your research.
- Leadership and team building.
- Writing and presenting research with confidence.
- Marketing yourself and your PhD.
- Communication with confidence: public speaking.
- Careers management for researchers.
- Creating effective poster presentations.
- Over 140 hours of effective English learning.