

## Lorina Bisharat, PhD

Name: Lorina Bisharat, PhD

Date of Birth: 07-05-1985

Nationality: Jordanian

Current Address: Amman-Jordan

Tel: +962 65355000, ext. 23377

Mobile: +962 798 34 70 85

Email : [L.bisharat@ju.edu.jo](mailto:L.bisharat@ju.edu.jo)

Web Page: <http://eacademic.ju.edu.jo/l.bisharat/default.aspx>

### EDUCATION

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<b>From</b>	<b>To</b>	<b>Name of Institution</b>	<b>Qualification</b>	<b>Subject</b>	<b>Grades</b>
2008	2012	University of East Anglia-UK	PhD	Drug Delivery	N.A.
2003	2008	The University of Jordan-Jordan	BA	Pharmacy	3.96 (on a scale of 4.00)
2002	2003	Jubilee School-Jordan	High School	Scientific Stream	94.8%

## EXPERIENCE AND SKILLS

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2012 to present     The University of Jordan     Amman, Jordan

### *Academic Positions:*

- **November 2017- present:** Associate Professor, Department of Pharmaceutics and Pharmaceutical Technology, School of Pharmacy, University of Jordan.
- **August 2012 – November 2017:** Assistant Professor, Department of Pharmaceutics and Pharmaceutical Technology, School of Pharmacy, University of Jordan.

### *Administrative Positions:*

- **September 2018 – present:** Head of department, Department of Pharmaceutics and Pharmaceutical Technology, School of Pharmacy, University of Jordan.

### *Teaching experience:*

- 1<sup>st</sup> year students: Lectures in “Physicochemical Principles of Pharmacy”.
- 2<sup>nd</sup> year students: Lectures and Lab demonstrations in “Pharmaceutical Calculations and Compounding of Dosage Forms”, and lab demonstrations of “Physical Pharmacy”.
- 3<sup>rd</sup> year students: Lectures in “Pharmaceutical Technology I”.
- 3<sup>rd</sup> to 6<sup>th</sup> year students: Seminar in “Pharmaceutics and Pharmaceutical Technology”.

### *Research Interests*

- Disintegration of immediate release tablets.
- Development of oral solid drug delivery systems using conventional and new technologies including hot melt extrusion.
- Development of extended release dosage forms using biodegradable and biocompatible plant derived proteins as release modifying ingredients.
- Formulation of targetted drug delivery systems with particular reference to colonic targeting.
- Film formation properties of colloidal polymeric dispersions.
- In vitro release testing of semisolid dosage forms using Enhancer cells.

2008-2012

University of East Anglia

Norwich, UK

***PhD scholarship***

- An Investigation into the Use of Zein Proteins as Pharmaceutical Excipients for Modified Drug Release Applications.
- Project in collaboration with different research centres within the Norwich Research Park (UK): University of East Anglia (UEA) and Institute for Food Research (IFR).
- Cross-disciplinary project covering a broad research area in the fields of Pharmaceutical Technology and Integrated Biology of the Gastro-Intestinal tract.
- Excellent experience in the field of Pharmaceutical Technology, Drug Delivery i.e. Development of Oral Dosage Formulations: Granulation, Characterization of Powders and Granules, Direct Compression, Coating of Tablets, Dissolution and Disintegration Tests and Formulation of Modified Release Dosage Form.
- Broad skills in Biology of the Gastro-Intestinal tract: Gastro-intestinal Drug Stability Studies (Bio-relevant media) and Colonic Fermentation Studies (Batch Fermentation Model using human faeces).
- Ability and flexibility to work and collaborate with scientific groups in different subject areas; developed great team-work ethic and communication skills.

***Teaching experience:***

- 1<sup>st</sup> year students' workshops: Calculation, Physical Biochemistry and Polarimetry.
- 2<sup>nd</sup> year students' workshops: Statistics, Drug Metabolism and Pharmacokinetics (DMPK).
- 2<sup>nd</sup> year students' laboratory demonstration: Powder characterisation (Pharmaceutical Technology) and Tablet compression and characterisation (Pharmaceutical Technology).

**CONFERENCES, WORKSHOPS AND MEMBERSHIPS**

- APS Pharm Sci, Nottingham, UK (September, 2011).
- American Association of Pharmaceutical Scientists (AAPS), Washington, USA (October, 2011).
- UEA School of Pharmacy Research Day, Norwich, UK (July, 2012).
- The 15th Scientific Congress of the Association of Pharmacy Colleges in the Arab World & The 3rd International Conference of The Faculty of Pharmacy, "Recent Trends and Advances in Pharmacy", The University of Jordan, Amman, Jordan (October, 2012).

## Lorina Bisharat, PhD

- “Grading System at the University of Jordan” workshop, The University of Jordan, Amman, Jordan (January, 2013).
- “The Role of Health Care Providers in Family Violence” workshop, Faculty of Nursing, The University of Jordan, Amman, Jordan (April, 2013).
- “Production Excellence” Seminar, International Consultancy Services (ICS), Amman, Jordan (October, 2014).
- ASU-Pharmacy First National Conference, “Recent Trends in Postgraduate Research”, Faculty of Pharmacy, Applied Science University, Amman, Jordan (December, 2014).
- Scientific day “Pharmacy Sciences and Practice: An Updated Perspective”, Faculty of Pharmacy, The University of Jordan, Amman, Jordan (April, 2015).
- ASU-Pharmacy Second Symposium, "Recent Trends in Post-Graduate Research", Faculty of Pharmacy, Applied Science University, Amman, Jordan (December, 2015).
- 10th AAPS Italian University Network A.It.U.N. Annual Meeting, "Non-traditional emerging technologies in drug product manufacturing" Parma, Italy (May, 2016).
- Functional food and nutraceuticals for health - University of Camerino, Camerino, Italy (June, 2016).
- The Fourth international conference of the Faculty of Pharmacy, 2nd International Conference of the association of Faculties of Pharmacy at Jordanian Universities. “Excellence in Pharmacy Education & Research: A Quality Approach”. The University of Jordan, Amman, Jordan (October, 2016).
- “Effective Use of PowerPoint Presentation in Teaching and Research”, Accreditation and Quality Assurance Center (1.5 training hours), The University of Jordan, Amman, Jordan (November, 2016).
- “Role of Social Media in Higher Education: Teaching and Learning”, Accreditation and Quality Assurance Center (1.5 training hours), The University of Jordan, Amman, Jordan (December, 2016).
- “Institutional Review Board (IRB)” workshop, Center for Women's Studies, The University of Jordan, Amman, Jordan (December, 2016).
- “Staff Development Workshops”, Accreditation and Quality Assurance Center, The University of Jordan, Amman, Jordan (January, 2017).
- Member of Jordan Pharmaceutical Association (2008 to present).
- Member of “Pricing of medical supplies of stents, silicon and pace makers” committee, JFDA, Amman, Jordan (2013).
- Member of “Post approval changes” committee, JFDA, Amman, Jordan (2014-2015).
- Member of “Post approval changes-originator” committee, JFDA, Amman, Jordan (2017).

**PUBLICATIONS**

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- Rahim, Safwan Abdel, Marco Cespi, **Lorina Bisharat**, and Alberto Berardi. "A facile and sensitive video-analysis method for tracking floating lag-time and floating rate of gastro-retentive tablets." *Journal of Drug Delivery Science and Technology* 62 (2021): 102403.
- Berardi, Alberto, **Lorina Bisharat**, Julian Quodbach, Safwan Abdel Rahim, Diego R. Perinelli, and Marco Cespi. "Advancing the understanding of the tablet disintegration phenomenon-an update on recent studies." *International Journal of Pharmaceutics* (2021): 120390.
- Basaleh, Salem, **Lorina Bisharat**, Marco Cespi, and Alberto Berardi. "Temperature: An overlooked factor in tablet disintegration." *European Journal of Pharmaceutical Sciences* 151 (2020): 105388.
- **Bisharat, Lorina**, Hatim S. Alkhatib, Amer Abdelhafez, Aya Barqawi, Ahmad Aljaberi, Sheng Qi, and Alberto Berardi. "Hot melt extruded zein for controlled delivery of diclofenac sodium: Effect of drug loading and medium composition." *International Journal of Pharmaceutics* 585 (2020): 119503.
- Berardi, Alberto, Diego R. Perinelli, Hamid A. Merchant, **Lorina Bisharat**, Iman A. Basheti, Giulia Bonacucina, Marco Cespi, and Giovanni F. Palmieri. "Hand sanitisers amid CoViD-19: A critical review of alcohol-based products on the market and formulation approaches to respond to increasing demand." *International journal of pharmaceutics* (2020): 119431.
- Berardi, Alberto, Safwan Abdel Rahim, **Lorina Bisharat**, and Marco Cespi. "Swelling of Zein Matrix Tablets Benchmarked against HPMC and Ethylcellulose: Challenging the Matrix Performance by the Addition of Co-Excipients." *Pharmaceutics* 11, no. 10 (2019): 513. <https://doi.org/10.3390/pharmaceutics11100513>
- Amayreh, Rana, **Lorina Bisharat**, Marco Cespi, Giovanni Filippo Palmieri, and Alberto Berardi. "Evaluation of the Disintegration Action of Soy Polysaccharide by Image Analysis." *AAPS PharmSciTech* 20, no. 7 (2019): 265. <https://doi.org/10.1208/s12249-019-1477-x>
- Ascani, Samantha, Alberto Berardi, **Lorina Bisharat**, Giulia Bonacucina, Marco Cespi, and Giovanni Filippo Palmieri. "The influence of core tablets rheology on the mechanical properties of press-coated tablets." *European Journal of Pharmaceutical Sciences* 135 (2019): 68-76. <https://doi.org/10.1016/j.ejps.2019.05.011>
- **Bisharat, Lorina**, Hatim S. Alkhatib, Suha Muhaissen, Julian Quodbach, Anaheed Blaibleh, Marco Cespi, and Alberto Berardi. "The influence of ethanol on superdisintegrants and on tablets disintegration." *European Journal of*

*Pharmaceutical Sciences* 129 (2019): 140-147.  
<https://doi.org/10.1016/j.ejps.2019.01.004>

• **Bisharat, Lorina**, Susan A. Barker, Arjan Narbad, and Duncan QM Craig. "In vitro drug release from acetylated high amylose starch-zein films for oral colon-specific drug delivery." *International journal of pharmaceutics* 556 (2019): 311-319. <https://doi.org/10.1016/j.ijpharm.2018.12.021>

• Berardi, Alberto, **Lorina Bisharat**, Anaheed Blaibleh, Lucia Pavoni, and Marco Cespi. "A simple and inexpensive image analysis technique to study the effect of disintegrants concentration and diluents type on disintegration." *Journal of pharmaceutical sciences* 107, no. 10 (2018): 2643-2652. <https://doi.org/10.1016/j.xphs.2018.06.008>

• Berardi, Alberto, **Lorina Bisharat**, Hatim S. AlKhatib, and Marco Cespi. "Zein as a pharmaceutical excipient in oral solid dosage forms: state of the art and future perspectives." *AAPS PharmSciTech* 19, no. 5 (2018): 2009-2022. <https://doi.org/10.1208/s12249-018-1035-y>

• **Lorina Bisharat**, Alberto Berardi, Diego Romano Perinelli, Giulia Bonacucina, Luca Casettari, Marco Cespi, Hatim S. AlKhatib, Giovanni F. Palmieri, "Aggregation of zein in aqueous ethanol dispersions: effect on cast film properties." *International Journal of Biological Macromolecules* 106 (2018): 360-368. <http://dx.doi.org/10.1016/j.ijbiomac.2017.08.024>

• Berardi, Alberto, **Lorina Bisharat**, Marco Cespi, Iman A. Basheti, Giulia Bonacucina, Lucia Pavoni, and Hatim S. AlKhatib. "Controlled release properties of zein powder filled into hard gelatin capsules." *Powder Technology* 320 (2017): 703-713. <https://doi.org/10.1016/j.powtec.2017.07.093>

• **Bisharat, Lorina**, Diego R. Perinelli, Alberto Berardi, Giulia Bonacucina, Serena Logrippo, Feras W. Darwish Elhajji, Marco Cespi, and Giovanni F. Palmieri. "Influence of Testing Parameters on In Vitro Tramadol Release from Poloxamer Thermogels using the Immersion Cell Method." *AAPS PharmSciTech* 18 (2017): 2706-2716. <https://doi.org/10.1208/s12249-017-0753-x>

• Berardi, Alberto, **Lorina Bisharat**, Giulia Bonacucina, Luca Casettari, Serena Logrippo, Marco Cespi, Hatim S. AlKhatib, and Giovanni F. Palmieri. "Formulation, swelling and dissolution kinetics study of zein based matrix

tablets." *Powder Technology* 310 (2017): 241-249.  
<https://doi.org/10.1016/j.powtec.2017.01.038>

- Berardi A., **Bisharat L.** (2016). Nanotechnology systems for oral drug delivery: challenges and opportunities. *Nanotechnology in Drug Delivery*. Salam Massadeh Eds., One Central Press (OCP), UK: 52-84.

## **FUNDED RESEARCH PROJECTS**

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- Deanship of Academic Research, The University of Jordan, Principal Investigator, "*An Investigation into the Use of Zein Proteins for Modified-Release Drug Delivery Systems*" JD 10,000.
- UK Research and Innovation (UKRI), UK, Principal Investigator, "*Meeting the SDGs: creating innovative infrastructures and policy solutions to support sustainable development in Global South communities (GS-DEV)/ CHILD MALNUTRITION: Sustainable development of low-cost supplements for tackling regional malnutrition in children.*" Total budget £1.36 million.