

Abdullah K. Alshememry, B. Pharm, PMP, Ph.D.

Vice Dean for Admission Affairs - Deanship of Admission and Registration

Assistant Professor of Pharmaceutical Biotechnology

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**Education**

- 2012 – 2018 **Doctor of Philosophy (Ph.D.)**, faculty of pharmacy and pharmaceutical sciences, university of Alberta, Edmonton, Canada.
Thesis title: "Recombinant stimulus-responsive biomaterials to target hypoxic/ischemic perinatal brain injury." Supervisors: Dr. Larry D Unsworth and Dr. Ayman El-kadi.
- 2006- 2011 Bachelor of Pharmaceutical Sciences (B. Pharm), college of pharmacy, king Saud university, Riyadh, Saudi Arabia.
- 2008- 2010 Fellowship in Entrepreneurship, king Salman institute for entrepreneurship, king Saud university, Riyadh, Saudi Arabia.

Professional Experience

- 2018- date **Assistant Professor**, Department of Pharmaceutics, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia
- 2012- 2018 **Visiting scientist**, national research council, national institute for nanotechnology (NRC-NANO), Edmonton, Canada.
- 2011- 2018 **Teaching Assistant**, Department of Pharmaceutics, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

Professional Certifications

- 2020 Certified Project Management Professional (PMP)®, Project Management Institute (PMI)®, USA

Administrative experience

- **Vice Dean for Admission Affairs**, Deanship of Admission and Registration, King Saud University (March 2021 to date)
- **Chairmen of the Scientific Committee at the Center of Excellence in Biotechnology Research**, King Saud University (September 2020 to date)
- **Member of the Executive Committee at the Center of Excellence in Biotechnology Research**, King Saud University (September 2020 to date)
- **Member of the Advisory Committee for Generic and Biosimilars**, Saudi Food and Drug Authority (March 2021 to date)
- **Advisor to the Deanship of Admission and Registration Affairs**, King Saud University (January 2021 to March 2021)

- **Director of Nanobiotechnology Unit**, College of Pharmacy, King Saud University (September 2019 to January 2022)
- **Assistant Vice Dean for Academic and Educational Affairs**, College of Pharmacy, King Saud University (September 2020 to March 2020)
- **Coordinator of the Examination Conduct Committee**, College of Pharmacy, King Saud University (December 2020)
- **Member of the Founding Committee of the Master program in Nanoscience and Applied Nanotechnology**, King Saud University (September 2019 to date)
- **Pharmaceutics department council secretary** (January 2020 to March 2021)
- **Coordinator of the Teaching Load Committee**, Department of Pharmaceutics, College of Pharmacy, King Saud University (September 2020 to March 2021).
- **Coordinator of the Master Program Committee**, Department of Pharmaceutics, College of Pharmacy, King Saud University (September 2019 to January 2020).
- **Member of Proposals Review Committee**, Department of Pharmaceutics, College of Pharmacy, King Saud University (January 2019 to date).
- **Member of Teaching Assistants and Scholars Affairs Committee**, Department of Pharmaceutics, College of Pharmacy, King Saud University (September 2019 to date).
- **Academic Advisor of College of pharmacy Students Clubs**, College of Pharmacy, King Saud University (September 2019 to September 2020).

Research experience and skills:

- **DNA cloning** – cloned and generated an assortment of genes encoding for elastin-like polypeptides using DNA concatemerization method
- **Protein expression and purification** – expressed and optimized expression yields of recombinant proteins in several bacterial species using bacterial transformation. Purified proteins using chromatographic and non-chromatographic methods and developed a patent-pending protocol to express and purify marginally soluble, short elastin-like polypeptides with yields 10-20 times higher than existing yields for comparable proteins in literature
- **In vivo phage display high throughput screening technology** - Screened and successfully identified peptides homing for ischemic core and penumbral vasculatures in hypoxic/ischemic rat model
- Nanoparticle self-assembly and disassembly characterization – using dynamic light scattering
- Developed a stimulus-responsive biopolymer platform technology with potential applications including biosensing, protein purification and drug delivery

Professional training

- 2010 *Clinical Training*, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia
- 2008, 2009 *Summer Intern*, Merck Sharp & Dohme Company, Riyadh, Saudi Arabia
- 2009 *Summer Intern*, community pharmacy (Alhozaimi pharmacy), Riyadh, Saudi Arabia

Publications

- Bacteriophage carriers localize in the brain of a rat model of neonatal hypoxic-ischemic encephalopathy. By: **Abdullah K Alshememry**, Jung-Lynn Jonathan Yang, Edward A Armstrong, Jerome Y Yager, Larry D Unsworth.
Biotechnology Journal
Published Feb 2022
- Development and Evaluation of Chitosan Nanoparticles for Ocular Delivery of Tedizolid Phosphate. By: Mohd Abul Kalam, Muzaffar Iqbal, **Abdullah Alshememry**, Musaed Alkholief, Aws Alshamsan
Molecules
Published Apr 2022
- Ceramide expression in relation to breast cancer molecular subtypes in Saudi women. By: Almomen, A.A., Arafah, M., Alwhaibi, M., Alsaigh, N., **Alshememry, A.**, Alsaleh, N.B., Alrabeeah, D., Al Saleh, K., Alshamsan, A., Alkholief, M.
SAUDI PHARMACEUTICAL JOURNAL
Published: April 2021
- UPLC-MS/MS assay of Tedizolid in rabbit aqueous humor: Application to ocular pharmacokinetic study. By: Mohd Abul Kalam, Muzaffar Iqbal, **Abdullah Alshememry**, Musaed Alkholief, Aws Alshamsan
Journal of Chromatography B
Published MAR 2021
- The influence of demographics on influenza vaccine awareness and hesitancy among adults visiting educational hospital in Saudi Arabia. By: Abdullah A Alzeer, Lina A. Alfantoukh, Abdulrahman Theneyan, Fawaz Bin Eid, Thamer A Almangour, **Abdullah K. Alshememry**, Abdulaziz M. Alhossan
SAUDI PHARMACEUTICAL JOURNAL
Published: FEB 2021
- Thermoresponsive sol-gel improves ocular bioavailability of Dipivefrin hydrochloride and potentially reduces the elevated intraocular pressure in vivo. By: Alkholief, Musaed; Abul Kalam, Mohd; Almomen, Aliyah, **Alshememry, Abdullah K.**, Aws Alshamsan
SAUDI PHARMACEUTICAL JOURNAL
Published: AUG 2020
- Co-encapsulation of metformin hydrochloride and reserpine into flexible liposomes: Characterization and comparison of in vitro release profile. By: Abul Kalam, Mohd; Alkholief, Musaed; Badran, Mohamed, **Alshememry, Abdullah K.**
JOURNAL OF DRUG DELIVERY SCIENCE AND TECHNOLOGY
Published: JUN 2020
- Human plasma protein adsorption to elastinlike polypeptide nanoparticles. By: Bahniuk, Markian S; **Alshememry, Abdullah K**; Unsworth, Larry D.
Biointerphases
Published: MAR 2020
- Self-assembly/disassembly hysteresis of nanoparticles composed of marginally soluble, short elastin-like polypeptides. By: Bahniuk, Markian S.; **Alshememry, Abdullah K.**; Elgersma, Scott V.; Unsworth, Larry D.
JOURNAL OF NANOBIO TECHNOLOGY
Published: FEB 2018

- Using Properties of Tumor Microenvironments for Controlling Local, On-Demand Delivery from Biopolymer-Based Nanocarriers. By: **Alshememry, Abdullah K.**; El-Tokhy, Suleiman S.; Unsworth, Larry D.
CURRENT PHARMACEUTICAL DESIGN
Published: MAY 2017
- High-yield recombinant expression and purification of marginally soluble, short elastin-like polypeptides. By: Bahniuk, Markian S.; **Alshememry, Abdullah K.**; Unsworth, Larry D.
BIOTECHNIQUES
Published: DEC 2016

Abstracts and posters

- *“Developing Self-assembling Elastin-like Polypeptide Nanoparticles Using Medium-length Sequences: Ramifications of Chain Length and Guest Amino Acid Hydrophobicity on Assembly and Disassembly Conditions”*
Markian Bahniuk, **Abdullah K Alshememry**, Larry D Unsworth.
Poster and published abstract presented at the 10th World Biomaterials Congress (WBC), Montreal, Québec, Canada May 17-22, 2016
- *“Self-assembling Elastin-like Polypeptide Nanoparticles; Effect of Chain Length and Guest Amino Acid Hydrophobicity on Assembly and Disassembly Conditions”*
Abdullah K Alshememry, Markian Bahniuk, Larry D Unsworth.
Poster presented at the research day, Faculty of pharmacy and pharmaceutical sciences, University of Alberta, Edmonton, November 2015
- *“Developing Recombinant Protein Therapeutics For Targeting The Penumbra In An Ischemic/ Hypoxic Rat Model: A Platform For Therapeutic Intervention In Perinatal Brain Injury”*
Abdullah K Alshememry, Markian Bahniuk, Larry D Unsworth.
Poster presented at the research day, Faculty of pharmacy and pharmaceutical sciences, University of Alberta, Edmonton, March 2014
- *“Enhancement of Meloxicam Dissolution Using Binary and Ternary Solid Dispersion Systems”*
Abdullah Alshememry, Jabran Harthi, Saeed Alqahtani, and Abdullah Alomrani
Poster presented at the 1st research day, Faculty of pharmacy and pharmaceutical sciences, King Saud University, Riyadh, February 2011

Oral presentations

- *“Recombinant stimulus-responsive biomaterials to target hypoxic/ischemic perinatal brain injury.”*
Presented at the faculty of pharmacy and pharmaceutical sciences, University of Alberta, Edmonton, September 2018
- *“Developing Recombinant Protein Therapeutics for Targeting the Penumbra in An Ischemic/ Hypoxic Rat Model: A Platform for Therapeutic Intervention in Perinatal Brain Injury”*
Presented at the faculty of pharmacy and pharmaceutical sciences, University of Alberta, Edmonton, March 2015

Grants

Project title	Funding agency	Role	Period	Status
Stabilization of Recombinant Protective Antigen (rPA) for use as a vaccine against <i>Bacillus anthracis</i>	Ministry of Education, Saudi Arabia	Co-PI	2019-2022	Approved
Development and Characterization of a Novel Nano-sized Formulation for Oral Delivery of Paclitaxel	King Abdullah University of Science and Technology (KAUST)	Co-PI	2020-2022	Approved
Development of MERS-CoV Papain Like Protease (PLpro) inhibitors using High Throughput Screening Methodology	King Abdullah University of Science and Technology (KAUST)	Co-PI	2020-2022	Approved

Editorial experience

- **Review Editor** for Bioengineering and Biotechnology at Frontiers (November 2019 – date)
- **Review Editor** for Materials at Frontiers (November 2019 – date)

Extracurricular activity

- Graduate Student Representative at the Faculty council for the academic year 2017/2018, Pharmacy Graduate Students Association (PGSA), Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta
- Head of the media team at the Saudi Student Association in Edmonton for the 2018/2019 academic year
- Vice president of the Saudi Student Association in Edmonton for the 2017/2018 academic year
- Acting president of Saudi Student Association in Edmonton, June-August 2016
- Graduate Student Representative at the Graduate Committee for the academic year 2016/2017, Pharmacy Graduate Students Association (PGSA), Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta
- Semi-finalist at the University of Alberta Three Minute Thesis (3MT) competition, (campus wide), March 2016
- President of the Canadian biomaterials society- Alberta student chapter for 2015/2016 academic year
- Graduate Student Representative at the Faculty/Staff Awards Committee for the academic year 2015/2016, Pharmacy Graduate Students Association (PGSA), Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta
- Treasurer of the Canadian biomaterials society- Alberta student chapter for 2014/2015 academic year
- Communication Director of the Canadian biomaterials society- Alberta student chapter for 2013/2014 academic year

Professional Affiliations:

- Member of the Canadian Society for pharmaceutical sciences (CSPS) Since 2012
- Member of the Canadian Biomaterials Society (CBS) Since 2012
- Member of the Canadian Society of chemistry (CSC) Since 2013
- Member of the Saudi Pharmaceutical Society, Riyadh. Since 2007

Honors & Awards:

- A recipient of a scholarship from the government of Saudi Arabia administered by the Saudi Arabian Cultural Bureau in Canada - 2012
- Award for superior academic achievement from the Saudi Cultural Bureau – 2013
- Invited member to Golden Key International Honour Society. (Membership into Golden Key is offered to undergraduate and graduate students recognized to be among the top 15% of their class by GPA) - 2013
- Graduated from college with Second Class Honor – 2011
- Best-poster award, 1st research day, college of pharmacy, King Saud university – 2011
- Excellence Reward from King Saud University – 2011
- Excellence Reward from King Saud University – 2008

References:

Available upon request.