

Faculty Portfolio

Dr. Basmah Almohaywi

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Education:

Year of Graduation	Qualifications (Specializations if any)	University/College, Country
2020	Ph.D. (Medicinal Chemistry)	UNSW, Australia
2014	M. Sc (by Research) (Pharmaceutical Chemistry)	UTAS, Australia
2010	M. PharmSci (Pharmaceutical Sciences)	UTAS, Australia
2006	BA. Sc (Biochemistry)	KAU, Saudi Arabia

Professional experience:

Year	Positions	University/College, Country
Sep 2023-Present	Vice-Chair Depart. Pharm. Chem.	College of Pharmacy, King Khalid University, KSA
Dec 2020-Present	Assistant Professor	College of Pharmacy, King Khalid University, KSA
June 2015-Dec 2020	Lecturer	College of Pharmacy, King Khalid University, KSA
Oct 2014-June 2015	Laboratory Specialist	Centre of Excellence In Genomic Medicine Research – Jeddah, Saudi Arabia
Sep-Oct 2014	Executive analyst (formulation chemist R & D)	Jamjoom Pharma – Jeddah, Saudi Arabia

Community service activities

Year	Positions & Name of the Project	University/Company, Country
24 Oct 2023	Organizer of the Chemistry Festival for the Chemistry National Week	Quariger, King Khalid University, KSA
22 Mar 2023	Member and participant in the awareness campaign program about Safe Use for the medications in Ramadan	Boulevard, Abha

Academic/research awards:

Year/Duration of Award	Name of the Award	University/Company, Country
2018- 2019	Champion in Women in Maths and Science champions Program	UNSW, Sydney, Australia
2019	SACM Excellence Reward	UNSW, Sydney, Australia
2018	SACM Excellence Reward	UNSW, Sydney, Australia
2017	SACM Excellence Reward	UNSW, Sydney, Australia
2012	Runner Up Poster Defense award	UTAS, Hobart, Australia

Workshops/ Trainings:

- 2-Days Cloud-based Hands-on Workshop on Computational Methods in HIT and Lead Identification/Optimization for Drug Discovery, Schrodinger
- STEM CELLS & CRISPR/CAS9 GENE EDITING COURSE 9-10 June 2021 at King Abdullah International Medical Research Centre.
- The Chemical Ecology Workshop (3rd October 2019) at Charles Sturt University, Wagga Wagga. The workshop included lectures and discussion on chemical ecology of microbial and plant interactions, natural products analysis, marine chemical ecology and Demonstration of separation technologies and *in vitro* technologies and more.
- Micromon Molecular Biology Techniques Course, Department of Microbiology, Monash University, Melbourne, Victoria, Australia (3-8 December 2017).
- Women in Maths and Science Championship Program (2018-2019) at UNSW, Sydney
- Online Learning and Recent technology for University Teaching, Al Nafea Center for Training and consultancy, Dubai 27-28 December 2015

Research interests:

- Multistep synthesis and purification of heterocyclic compounds
- Discovery and development of new agents for Antimicrobial agents
- Antimicrobial Green Silver Nanoparticles using green extracts
- Molecular targets: Quorum Sensing in Bacteria (e.g. LasR)
- Molecular modeling

Teaching experience:

- Pharmaceutical Organic Chemistry, at King Khalid University, 2020-2021 (Pharm. D. and B. Pharm)
- Medicinal Chemistry-1, at King Khalid University, (Pharm. D. and B. Pharm)
- Medicinal Chemistry-2, at King Khalid University
- Medicinal Chemistry-3, at King Khalid University
- Pharmaceutical Biotechnology at King Khalid University, 2015-2016

Professional membership:

Year	Name of the professional Body	Role
2010-Present	American Chemical Society (ACS)	Member
2010-Present	Royal Australian Chemical (RACI)	Member
To present	The Australian Society for Biochemistry and Molecular Biology (ASBMB)	Member

Research grants:

Year/Duration of Grant	Title of the Project	Awarding Body
2022 (1 year)	Synthesis of New and Novel Heterocyclic Compounds via 3-Multicomponent Reactions as Antimicrobial agents", and is supported under a small group grant number RGP.1/332/43 by the Deanship of scientific research at King Khalid University	DSR, KKU

Publications:

1. Das, T.; Das, B.; Young, B. C.; Aldilla, V.; Sabir, S.; Almohaywi, B.; Willcox, M.; Manefield, M.; Kumar, N. Ascorbic acid modulates the structure of the *Pseudomonas aeruginosa* virulence factor pyocyanin and ascorbic acid-Furanone-30 combination facilitate biofilm disruption. *Front. Microbiol.* 2023, 14, 1166607.
2. Afzal, O., H.A. Alshammari, M.A. Altamimi, A. Hussain, B. Almohaywi, and A.S. Altamimi, Hansen solubility parameters and green nanocarrier based removal of trimethoprim from contaminated aqueous solution. *Journal of Molecular Liquids*, 2022. 361: p. 119657.
3. Aljurbui, S.J., A. Hussain, M. Yusuf, M. Ramzan, O. Afzal, B. Almohaywi, S. Yasmin, and A.S.A. Altamimi, Impact of Composition and Morphology of Ketoconazole-Loaded Solid Lipid Nanoparticles on Intestinal Permeation and Gastroplus-Based Prediction Studies. *ACS omega*, 2022. 7(26): p. 22406-22420.
4. Ashique, S., B. Almohaywi, N. Haider, S. Yasmin, A. Hussain, N. Mishra, and A. Garg, siRNA-based nanocarriers for targeted drug delivery to control breast cancer. *Advances in Cancer Biology-Metastasis*, 2022: p. 100047.
5. Almohaywi, B., T.T. Yu, G. Iskander, S. Sabir, M. Bhadbhade, D.S. Black, and N. Kumar, Synthesis of Alkyne-Substituted Dihydropyrrones as Bacterial Quorum-Sensing Inhibitors of *Pseudomonas aeruginosa*. *Antibiotics*, 2022. 11(2): p. 151.
6. Sabir, S., T.T. Yu, R. Kuppusamy, B. Almohaywi, G. Iskander, T. Das, M.D. Willcox, D.S. Black, and N. Kumar, Novel Seleno-and Thio-urea-Containing Dihydropyrrol-2-one Analogues as Antibacterial Agents. *Antibiotics*, 2021. 10(3): p. 321.
7. Almohaywi, B., G. Iskander, D. Black, and N. Kumar. Alkyne-Substituted Dihydropyrrones as Bacterial Quorum Sensing Inhibitors. in *The 1st International Electronic Conference on Antibiotics—The Equal Power of Antibiotics And*

- Antimicrobial Resistance session Antimicrobial Discovery, Development, Stewardship and Susceptibility Testing. 2021. Online. Online, 8–17 May 2021; Volume 68.
8. Almohaywi, B., T.T. Yu, G. Iskander, D.S. Chan, K.K. Ho, S. Rice, D.S. Black, R. Griffith, and N. Kumar, Dihydropyrrolones as bacterial quorum sensing inhibitors. *Bioorganic & medicinal chemistry letters*, 2019. 29: p. 1054-1059.
 9. Taunk, A., R. Chen, G. Iskander, K.K. Ho, B. Almohaywi, D.S. Black, M.D. Willcox, and N. Kumar, The Role of Orientation of Surface Bound Dihydropyrrol-2-ones (DHP) on Biological Activity. *Molecules*, 2019. 24(14): p. 2676.
 10. Almohaywi, B., G. Iskander, T.T. Yu, M. Bhadbhade, D.S. Black, and N. Kumar, Copper-mediated Chan-Evans-Lam N-arylation of 5-methylene-4-aryl-1, 5-dihydro-2H-pyrrol-2-one derivatives. *Tetrahedron Letters*, 2018. 59(9): p. 811-814.
 11. Almohaywi, B., A. Taunk, D.S. Wenzholz, S. Nizalapur, N.N. Biswas, K.K. Ho, S.A. Rice, G. Iskander, D.S. Black, and R. Griffith, Design and synthesis of lactams derived from mucochloric and mucobromic acids as pseudomonas aeruginosa quorum sensing inhibitors. *Molecules*, 2018. 23(5): p. 1106-1135.
 12. Ferrins, L., R. Rahmani, M.L. Sykes, A.J. Jones, V.M. Avery, E. Teston, B. Almohaywi, J. Yin, J. Smith, C. Hyland, K.L. White, E. Ryan, Michael Campbell, S. A. Charman, M. Kaiser, and J. B. Baell, 3-(Oxazolo [4, 5-b] pyridin-2-yl) anilides as a novel class of potent inhibitors for the kinetoplastid Trypanosoma brucei, the causative agent for human African trypanosomiasis. *European journal of medicinal chemistry*, 2013. 66: p. 450-465.

Conference attendance/presentations: (Include recent 3 presentations)

1. The International Symposium on Chemical Biology (EFMC-ISCB) on November 16-18, 2023 in Basel, Switzerland.
2. The 57th International Conference on Medicinal Chemistry – 57e RICT – Lille, France - July 5-7, 2023.
3. The 22nd Tetrahedron Symposium (28th of June to 1st July 2022) at Lisbon, Portugal
Poster Title: Disruption of Bacterial Communication: An alternative to the control of infectious pathogens and multiple drug resistance