



Dania Abdulrahman A. Hussein

Vice Dean of Research and Innovation, College of Clinical Pharmacy

Assistant Professor of Pharmacology

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### Personal Data

Nationality | Saudi

Department | Pharmacology, College of Clinical Pharmacy

Official IAU Email | dahussein@iau.edu.sa

### Language Proficiency

| Language | Read | Write | Speak |
|----------|------|-------|-------|
| Arabic   | √    | √     | √     |
| English  | √    | √     | √     |

### Academic Qualifications:

| Date | Academic Degree   | Place of Issue  | Address               |
|------|---|---|-----------------------|
| 2015 | Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences | King's College London Institute of Pharmaceutical Science (Pharmacology and Therapeutics group) and the Randal Division of Cell and Molecular Biophysics. London, United Kingdom. | London United Kingdom |
| 2009 | Master of Science in Drug Discovery Skills              | King's College University London 2009, School of Medicine and Institute of Pharmaceutical Sciences. London, United Kingdom.   | London United Kingdom |
| 2008 | BSc. Pharmacy (Specialty: Clinical Pharmacy)            | King Saud University, College of Pharmacy   | Riyadh, Saudi Arabia  |



**PhD, Master or Fellowship Research Title:**

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|---------------|--|
| PhD thesis    | Investigating the interaction between GTP cyclohydrolase 1 and its feedback regulatory protein using biophysical and pharmacological techniques. |
| Master thesis | Analysis of P2Y14 pharmacology, the development and validation of a high throughput assay to identify novel compounds for pain relief.           |

**Professional Record:**

| Job Rank   | Department   | Place and Address of Work   | From             | Date           |
|--|--|---|------------------|----------------|
| Assistant Professor  | Pharmacology   | College of Clinical Pharmacy,<br>Imam Abdulrahman Bin Faisal<br>University                                    | 2015             | Present        |
| Multidisciplinary<br>PhD. Studentship                                  | Pharmacology and<br>Therapeutics Research<br>Group                     | Institute of Pharmaceutical<br>Sciences and the Randall<br>Division, King's College<br>London, United Kingdom | 2010             | 2015           |
| Scientist  | Biological Reagent and<br>Assay Development<br>Department GSK R&D plc. | GlaxoSmithKline plc. Research<br>and Development, Stevenage,<br>United Kingdom                                | March 2009       | August 2009    |
| Research Assistant   | Cell Biology and<br>Cardiovascular Research<br>Unit and KFSHRC         | King Faisal Specialist Hospital<br>and Research Center, Riyadh,<br>Saudi Arabia                               | February<br>2008 | August 2008    |
| Clinical training:<br>Hospital<br>Pharmacist and<br>Clinical Clerkship | Hospital Inpatient and<br>Outpatient Departments                       | Riyadh Military Hospital Saudi<br>Arabia<br>King Khaled university hospital<br>Saudi Arabia                   | January 2007     | February 2008  |
| Research Trainee   | Epidemiology and<br>biostatistics research<br>unit, KFSHRC             | King Faisal Specialist Hospital<br>and Research Center, Riyadh,<br>Saudi Arabia                               | June 2005        | September 2005 |



### Scientific Achievements:

| #  | PEER-REVIEWED PUBLICATIONS AND ABSTRACTS   |
|----|--|
| 1  | Gomaa M, Gad W, Hussein D, Pottoo FH, Tawfeeq N, Alturki M, Alfahad D, Alanazi R, Salama I, Aziz M, et al. Sulfadiazine Exerts Potential Anticancer Effect in HepG2 and MCF7 Cells by Inhibiting TNF $\alpha$ , IL1b, COX-1, COX-2, 5-LOX Gene Expression: Evidence from In Vitro and Computational Studies. <i>Pharmaceuticals</i> . 2024; 17(2):189. <a href="https://doi.org/10.3390/ph17020189">https://doi.org/10.3390/ph17020189</a>   |
| 2  | Kurdi SM, Alamer A, Albaggal A, Alsuwaiket M, Alotaibi FM, Asiri IM, Alshayban DM, Alsultan MM, Alshehail B, Almalki BA, et al. The Association between Self-Care Activities and Depression in Adult Patients with Type 2 Diabetes in Saudi Arabia: A Cross-Sectional Web-Based Survey Study. <i>Journal of Clinical Medicine</i> . 2024; 13(2):419. <a href="https://doi.org/10.3390/jcm13020419">https://doi.org/10.3390/jcm13020419</a>   |
| 3  | Alahmadi, A., Alansari, A., Alsheikh, N., Alshammasi, S., Alshamery, M., Al-abdulmohsin, R., Al Rabia, L., Al Nass, F., Alghamdi, M., Alm Mustafa, S., Aljamea, Z., Kurdi, S., Islam, M. A., & Hussein, D. (2023). Beta blockers may be protective in COVID-19; findings of a study to develop an interpretable machine learning model to assess COVID-19 disease severity in light of clinical findings, medication history, and patient comorbidities. <i>Informatics in Medicine Unlocked</i> , 42, 101341. <a href="https://doi.org/https://doi.org/10.1016/j.imu.2023.101341">https://doi.org/https://doi.org/10.1016/j.imu.2023.101341</a> |
| 4  | Hussein D. In Silico Investigation of the Human GTP Cyclohydrolase 1 Enzyme Reveals the Potential of Drug Repurposing Approaches towards the Discovery of Effective BH4 Therapeutics. <i>International Journal of Molecular Sciences</i> . 2023; 24(2):1210. <a href="https://doi.org/10.3390/ijms24021210">https://doi.org/10.3390/ijms24021210</a>   |
| 5  | Heba Shaaban, Ahmed Mostafa, Abdulmalik M Alqarni, Yasmeen Almohamed, Duaa Abualrahi, Dania Hussein, Meshal Alghamdi. Simultaneous determination of bisphenol A and its analogues in foodstuff using UPLC-MS/MS and assessment of their health risk in adult population. <i>Journal of Food Composition and Analysis</i> , 2022; 110: 104549   |
| 6  | Heba Shaaban, Sahar Y Issa, Rizwan Ahmad, Ahmed Mostafa, Sara Refai, Nooran Alkharraa, Batool T Albaqshi, Dania Hussien, Abdulmalik M Alqarni. Investigation on the elemental profiles of lip cosmetic products: Concentrations, distribution and assessment of potential carcinogenic and non-carcinogenic human health risk for consumer safety. <i>Saudi Pharmaceutical Journal</i> , 2022; 30 (6): 779-792   |
| 7  | Heikal Lamia, Starr Anna, Hussein Dania, Prieto-Lloret Jesus, Aaronson Philip, Dailey Lea, Nandi, Manasi. L-phenylalanine restores vascular function in spontaneously hypertensive rats through activation of the GCH1-GFRP complex. <i>JACC: BASIC TO TRANSLATIONAL SCIENCE</i> , 2018 Jun; 3(3): 366–377.  |
| 8  | Dania Hussein, Anna Starr, Lamia Heikel, Paul R. Brown, Brian J. Sutton, James M. McDonnell, Manasi Nandi. Biophysical and in vivo investigation of GTP cyclohydrolase 1 and its feedback regulatory protein. <i>Br J Pharmacol</i> . 2015 Aug;172(16):4146-57   |
| 9  | Starr, A., Hussein, D. & Nandi, M. The regulation of vascular tetrahydrobiopterin bioavailability. <i>Vascul Pharmacol</i> . Mar 2013;58(3):219-30.  |
| 10 | D. Hussein, A. Matrafi, M. Sayed, A. Alhowsawi, S. Alm Mustafa, Hadi Alsaihaty, M. Alghamid. Identifying and repurposing drugs capable of stabilizing multiple variants of the SARS- Cov-2 S-glycoprotein in a closed conformation, using in silico techniques. Poster presented at BPS and ELRIG joint meeting Translating Ideas into Therapy, July 2021.   |
| 11 | D. Hussein, A. Matrafi, M. Sayed, A. Alhowsawi. Identifying modulators of the binding interaction between the S-glycoprotein and ACE2 receptor, effective across multiple variants of the novel SARS-Cov-2, that stabilize the viral protein in a closed conformational state, using in silico techniques. Poster presented at SMR and BPS joint meeting Current Trends in Drug Discovery, June 2021.  |
| 12 | D Hussein, A Starr, L Heikal, M Nandi, Investigating tetrahydrobiopterin biosynthesis. <i>Proceedings of The Physiological Society</i> . 2013.   |
| 13 | L Heikal, A Starr, D Hussein, J Prieto-Lloret, P Aaronson, L Dailey, M Nandi..Investigating the effects of L-phenylalanine on the endogenous tetrahydrobiopterin regulatory system in spontaneously hypertensive rats. 37th Congress of IUPS (Birmingham, UK) (2013) Proc 37th IUPS, PCD396.   |
| 14 | Hussein, D., Starr, A., Heikal, L. & Nandi, M. Investigating the interaction between GTP-cyclohydrolase1 and its feedback regulatory protein. <i>NITRIC OXIDE</i> . Jul 2012; 27, p. S29-S30.  |



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| 15 | Hussein, D., Starr, A. & Nandi, M. Investigation of GTP-cyclohydrolase 1 and its feedback regulatory protein in tetrahydrobiopterin bioavailability. <i>Vascul Pharmacol.</i> 2012; 56, 5-6, p. 353-353. |
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#### Awards:

- Best Thematic Multidisciplinary poster DUPHAT 2024, Dubai U.A.E.
- Award for teaching excellence, College of Medicine, Imam Abdulrahman bin Faisal University 2022
- Award for teaching excellence, Imam Abdulrahman bin Faisal University, 2016, 2017.
- Best Oral Presentation: Institute of Pharmaceutical Sciences (IPS) Post-graduate Symposium 2013. KCL, U.K.
- Awarded the College of Pharmacy's Student of the year Award for the year 2006-2007.

#### Membership of Scientific and Professional Societies and Organizations

- Member of the British Pharmacological Society
- Member of European Vascular Biology Organization
- Active volunteer and member of the Saudi Children Cancer Society
- Active volunteer member with the Saudi Orphan Society

#### Teaching Activities:

##### Undergraduate and Post-graduate

| # | Course/Rotation Title                         | No./Code        | Extent of Contribution<br>(no. of lectures/Tutorials. Or labs, Clinics) |
|---|---|-----------------|---|
| 1 | Pharmacology 1                                | PHTX 301        | 4 Credit hours  |
| 2 | Pharmacology 2                                | PHTX 307        | 4 Credit hours  |
| 3 | Pharmacology and Toxicology for Public Health | PUBH 212        | 3 Credit hours  |
| 4 | Year 2 Pharmacology (College of Medicine)     | MED 201         | 1 Credit hours  |
| 5 | Year 3 Pharmacology (College of Medicine)     | MED 301         | 1 Credit hours  |
| 6 | Pediatric Pharmacology                        | Nursing 2601617 | 3 Credit hours  |

#### Research Supervision

| # | Degree Type | Title  | Institution | Date         |
|---|-------------|--|-------------|--------------|
| 1 | PharmD      | Investigating COVID-19 prognostics and therapeutics using a multidisciplinary approach                       | COCP, IAU   | 2021-Present |
| 1 | PharmD      | Short courses versus long (standard) courses of antibiotics used in urinary tract infections, A review study | COCP, IAU   | 2018-2019    |
| 2 | PharmD      | Effect of antioxidant therapy in reversing endothelial dysfunction in cardiovascular disease                 | COCP, IAU   | 2018-2019    |
| 3 | PharmD      | Tetrahydrobiopterin and neurodegenerative disease  | COCP, IAU   | 2017-2018    |



### Administrative Responsibilities, Committees and Community Service

| # | From | To      | Position  | Organization                      |
|---|------|---------|---|-----------------------------------|
| 1 | 2023 | Present | Head of Department of Pharmacology                            | College of Clinical Pharmacy, IAU |
| 2 | 2021 | 2023    | Vice Dean of Research and Innovation                          | College of Clinical Pharmacy, IAU |
| 3 | 2020 | Present | Head of the Post-Graduate Development Unit                    | College of Clinical Pharmacy, IAU |
| 4 | 2019 | Present | Member of the Curriculum Committee                            | College of Clinical Pharmacy, IAU |
| 4 | 2017 | 2021    | College Advocate for Community Services                       | College of Clinical Pharmacy, IAU |
| 5 | 2019 | 2022    | Certified Head of the Examination and Assessment Quality Unit | College of Clinical Pharmacy, IAU |

### Volunteer Work

| # | From | To   | Type of Volunteer  | Organization  |
|---|------|------|--|---|
| 1 | 2015 | 2020 | Medication use counselling, and awareness campaigns delivered to public, in association with Al-Wid Charity Groups based in Khobar and Dammam in the Eastern Province of K.S.A. (2015-2020). | CCP, IAU and Al-Wid Charity Group, Khobar, Saudi Arabia |
| 2 | 2003 | 2013 | Active Volunteer of the Ensan Saudi Orphan Society   | Ensan Saudi Orphan Support Society Riyadh, Saudi Arabia |
| 3 | 2003 | 2012 | Active Volunteer of Saudi Children Cancer Society  | Saudi Children Cancer Society, Riyadh Saudi Arabia      |
| 4 | 2003 | 2008 | Poison Awareness and Management Campaign   | Armed Forces Hospital, Riyadh, Saudi Arabia             |