

Amani Ahmed Alghamdi

280, College of Science, Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
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EDUCATION

Doctor of Philosophy (Neuroscience) 2010–2015

Wolfson Centre for Age-Related Diseases, Kings College London, London, UK

- Title of my PhD thesis: Ubiquitin proteasome system impairment and its relationships to cognitive and non-cognitive symptoms, pathology and synaptic dysfunction, in the Lewy body dementias.
- Demonstrated undergraduate students during the first two years of my PhD

Master of Science (Molecular Life Science Research) 2004–2006

Department of Biomedical and Health Sciences, King's College London, London, UK

Bachelor of Science (Biochemistry) 2000–2004

Department of Biochemistry, School of Health and Life Science, King's College London, London, UK

EMPLOYMENT

Associate Professor 2022–present

Biochemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia

Assistant Vice Dean for Technical Affairs 2020–2021

College of science (Girls' Section), Center for Science and Medical Studies for Girls, King Saud University, Riyadh, Saudi Arabia

Department Deputy 2016–2020

Biochemistry Department (Girls' Section), Center for Science and Medical Studies for Girls, King Saud University, Riyadh, Saudi Arabia

Assistant Professor 2016–2022

Biochemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia

Lecturer 2007–2015

Biochemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia

- Taught undergraduate courses in biochemistry.

MASTER'S THESIS SUPERVISOR.

- Main supervisor: Afnan Salamah Albanaqi, *Metabolic and Inflammatory Responses to Recent COVID19 Exposure*
- Main supervisor: Reema Naji Khalid Al-Subaiee, *Analysis of medulloblastoma progression in PINK1 knockout cell lines*
- Main supervisor: Awjad Awad Monea Almotari, *Investigating a diagnostic factor SMARCA5 in breast cancer*
- Main supervisor: Maram Hamad Ali Alshuwaymi, *Identification of a molecular biomarker for the early prediction of breast and ovarian cancers in cancer-free BRCA1-methylated carriers*
- Main supervisor: Nouf Nasser Abdualлах AlGhunaim, *Association of apolipoprotein E and clusterin gene polymorphisms with the risk of Alzheimer's disease in Saudi subjects*
- Main supervisor: Ebtesam Yahya Qasem, *RAS, TERT promoter and BRAF mutations in poorly differentiated thyroid cancer*
- Main supervisor: Noura Saad Nasser Alshuil, *In vitro screening for the anticancer properties of different extracts of Qaisum Achillea fragrantissima*
- Main supervisor: Wadha Aldossary, *The effects of point mutation (P.Gly61Glu) in the CYP1B1 gene on optic nerves which may cause glaucoma*
- Co-supervisor: Hind Muidh Mben Alharthi, *Clinical significance of serum NLRP3 levels and associated cytokines in Saudi patients with metabolic syndrome*
- Co-supervisor: Albatul Yousef Abdullah Alshwei, *Serum tristetraproline levels in Saudi patients with or without metabolic syndrome and its association with the insulin resistance index and adiponectin*
- Co-supervisor: Dalal Zaid Nukhilan Alhawti, *The association between perilipin 3 and type 2 diabetes mellitus*
- Co-supervisor: Hind Alfadul, *The association between essential minerals with concentrations of 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D among Saudi patients*
- Co-supervisor: Reem Almutiry, *The association between the IL-6 and TNF-α gene polymorphism of IL-6 and TNF-α and the risk of Alzheimer's disease in Saudi subjects*

COMMITTEE MEMBERSHIPS

- Graduates, Public Relations and Community Service Committee 2023– present
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Student affairs committee 2020–present
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia

- Student's affairs Committee 2022-present
College of Science, King Saud University, Riyadh, Saudi Arabia
- ISO committee 2022-present
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Non-Saudi faculty evaluation committee 2020–2021
College of Science, King Saud University, Riyadh, Saudi Arabia
- Study Schedules committee 2020–2021
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Student's Rights Committee 2019–2020
College of Science, King Saud University, Riyadh, Saudi Arabia
- Final Examination Committee 2015–2020
College of Science, King Saud University, Riyadh, Saudi Arabia
- Graduates, Public Relations and Community Service Committee 2019–2020
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- PhD Committee 2019–2020
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Postgraduate Student Committee 2016–2020
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Teaching Load Committee 2015–2020
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Demonstrators Committee 2015–2019
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Promotion and Appointments Committee 2015–2019
Biochemistry Department, King Saud University, Riyadh, Saudi Arabia
- Postgraduate Student Committee 2016–2018
College of Science, King Saud University, Riyadh, Saudi Arabia
- Board of Directors *Center for Scientific and Medical Studies Research* 2016–2018
Center for Science and Medical Studies for Girls, King Saud University, Riyadh, Saudi Arabia

Grant

- IFKSUDR_H177 (Immunologic and Metabolic Responses of Adults & Teens after COVID-19 Vaccination in Saudi Arabia)
- KACST-NPST grant number: 2-17-03-001-0041 (Title: Role of angiotensin (1-12) and chymase in the pathogenesis of diabetic retinopathy)
- KACST 336-37 (Title: An investigation of the molecular basis of p.Gly61Glu mutation and its effect on optic nerve in Glaucoma)

PUBLISHED WORKS

1. Dose Intervals and Time since Final Dose on Changes in Metabolic Indices after COVID-19 Vaccination.. **Amani Alghamdi**, Kaiser Wani, Abdullah M. Alnaami, Nasser M. Al-Daghri. *Vaccines* 2023, 11, 1746. <https://doi.org/10.3390/vaccines11121746>
2. Antiproliferative effect of Solanum nigrum water extract on breast cancer cells: potential roles of apoptosis and oxidative stress. Haseeb Khan; N Rajendra Prasad; Salman Alrokayan; **Amani Alghamdi**. *Cell Mol Biol (Noisy-le-grand)*. 2023 Oct 31;69(10):136-142. doi: 10.14715/cmb/2023.69.10.19.
3. Diabetes-induced stimulation of the renin-angiotensin system in the rat brain cortex. Abee Oyesiji Abiodun, Dalia I AlDosari, **Amani Alghamdi**, Abdul Aziz Al-Amri, Sarfaraz Ahmad, and Mohammad Shamsul Olaa. *Saudi J Biol Sci*. 2023 Sep; 30(9): 103779. doi: 10.1016/j.sjbs.2023.103779
4. Role of mitochondrial dysfunction in cytotoxic effects of Solanum nigrum water extract on MCF-7 and MDA-MB-231 breast cancer cell lines. Khan, Haseeb; **Alghamdi, Amani**; Prasad, Rajendra; Alrokayan, Salman; Almansour, Basma; Hatamleh, Ashraf. *Front. Biosci. (Landmark Ed)* 2023, 28(8), 180; <https://doi.org/10.31083/j.fbl2808180>
5. *Achillea fragrantissima* (Forssk.) Sch.Bip flower dichloromethane extract exerts anti-proliferative and pro-apoptotic properties in human triple-negative breast cancer (MDA-MB-231) cells: In vitro and in silico studies. Nora Alshuail, Zeyad Alehaideb, Sahar Alghamdi, Rasha Suliman, Hamad Al-Eidi, Rizwan Ali, Tlili Barhoumi, Mansour Almutairi, Mona Alwhibi, Bandar Alghanem, Abir Alamro, **Amani Alghamdi**, Sabine Matou-Nasri. *Pharmaceuticals* 2022, 15, 1060. doi.org/10.3390/ ph15091060
6. A Time-Course Evaluation of DNA Damage and Neurotoxicity Induced by PEGylated Graphene Oxide Nanoparticle in Swiss Albino Mice. Nojood Altwaijry, Qura Tul Ain, Hissah Alnuwaysir, Abir Alamro, **Amani Alghamdi**, Samina Hyder Haq. *J Biomed Nanotechnol* 2022 Apr 1;18(4):1180-1186. doi: 10.1166/jbn.2022.3306.
7. Almutlaq, M.; Mansour, F.A.; Alghamdi, J.; Alhendi, Y.; Alamro, **A.A.**; **Alghamdi, A.A.**; Alamri, H.S.; Alroqi, F.; Barhoumi, T. Angiotensin II Exaggerates SARS-CoV-2 Specific T-Cell Response in Convalescent Individuals following COVID-19. *Int. J. Mol. Sci.* 2022,23,8669. <https://doi.org/10.3390/ijms23158669>
8. Sarwar S, Alamro A, Huq F and **Alghamdi A** (2022) Insights Into the Role of Epigenetic Factors Determining the Estrogen Response in EstrogenPositive Ovarian Cancer and Prospects of Combining Epi-Drugs With Endocrine Therapy. *Front. Genet.* 13:812077. doi: 10.3389/fgene.2022.812077

9. Saba Abdi, **Amani Ahmed Alghamdi**, Nouf Nasser Abdualлах AlGhunaim, Reem Muteb Almutairi, Farid Shokry Ataya, Mohammed Ghouse Ahmed Ansari, Syed Danish Hussain, Mohammad Masoud, Abir Alamro, Othman T Almutairi, Nasser M Al-Daghri, Taim Abdullah Muayqil. Association of Alzheimer's Disease with Genetic Variants of Apolipoprotein E, Clusterin, TNF- α and IL-6 Among Elderly. *Curr Pharm Biotechnol.* 2022 Feb 8. doi: 10.2174/1389201023666220208093919.
10. Saba Abdi , Abeer Abdulaziz Almiman, Mohammed Ghouse Ahmed Ansari , Abdullah M. Alnaami, Abdul Khader Mohammed, Naji J. Aljohani, Amal Alenad, **Amani Alghamdi**, Majed S. Alokail, and Nasser M. Al-Daghri. PTHR1 Genetic Polymorphisms Are Associated with Osteoporosis among Postmenopausal Arab Women. (2021) *BioMed Research International*, 8 pages.
11. Muhammad Ayub Khan, Muhammad Mohsin Ansari, Sadia Tabassam Arif, Abida Raza, Ho-Ik Choi, Chang-Wan Lim, Ha-Yeon Noh, Jin-Su Noh, Salman Akram, Hafiz Awais Nawaz, Muhammad Ammad, Abir Abdullah Alamro, **Amani Ahmed Alghamdi**, Jin-Ki Kim & Alam Zeb (2021) Eplerenone nanocrystals engineered by controlled crystallization for enhanced oral bioavailability, *Drug Delivery*, 28:1, 2510-2524, DOI: [10.1080/10717544.2021.2008051](https://doi.org/10.1080/10717544.2021.2008051)
12. MicroRNA-126 is modulated in peripheral white blood cells in breast and ovarian cancers: a candidate biomarker of cancer risk in the cancer-free BRCA1 methylation carriers. Maram Showimi; Nujoud Al-Yousef; Wejdan Alharbi; Sara Alkhezayem; **Amani Alghamdi**; Nisreen Al-Moghrabi. *ONCOLOGY LETTERS* 24: 276, 2022.
13. Amani Alghamdi , Dalal Z. Alhotti, Shaun Sabico, Omar S. Al-Attas, and Nasser M. Al-Daghri. Associations of Perilipin 3 with Insulin Resistance in Arab Adults with Type 2 Diabetes (2021) *Disease Markers*.
14. Hepatotoxicity induced by intravenous administration of PEGylated nano-graphene oxide in albino mice. Abir Abdullah Alamro, Samina Hyder Haq, **Amani Alghamdi**, Nojood Altwaijry, Amjad Saeed Alali, Rahaf Abdullah Naif Alotaib, Al- Anood Murshed, and Qura Tul Ain. *Mater. Express* 11, 1668–1673 (2021)
15. Sex-Specific Signature in the Circulating NLRP3 Levels of Saudi Adults with Metabolic Syndrome Nasser M Al-Daghri, Kaiser Wani, Hind AlHarthi, **Amani Alghamdi** , Abdullah M Alnaami , Sobhy M Yakout . *J. Clin. Med.* **2021**,10,3288.
16. The Effect of Local Renin Angiotensin System in the Common Types of Cancer. Almutlaq M, Alamro AA, Alamri HS, **Alghamdi AA** and Barhoumi T (2021). *Front. Endocrinol.* 12:736361. doi: 10.3389/fendo.2021.736361
17. Tristetraprolin, Inflammation, and Metabolic Syndrome in Arab Adults: A Case Control Study. Nasser M. Al-Daghri, Albatul Y.A. Al-Shuwaie, **Amani Alghamdi**, Osama E. Amer, Malak N.K. Khattak Mohammed G.A. Ansari, Abdullah M. Alnaami and Shaun Sabico. *Biology* 2021, 10(6), 550

18. Enhanced Accumulation of Cisplatin in Ovarian Cancer Cells from Combination with Wedelolactone and Resulting Inhibition of Multiple Epigenetic Drivers. Sadia Sarwar, Abir A Alamro, **Amani A Alghamdi**, Komal Naeem, Salamat Ullah, Muazzam Arif, Jun Qing Yu, and Fazlul Huq. *Drug Des Devel Ther.* 2021; 15: 2211–2227.
19. Contribution of Attenuation of TNF- α and NF- κ B in the Anti-Epileptic, Anti-Apoptotic and Neuroprotective Potential of Rosa webbiana Fruit and Its Chitosan Encapsulation. Anum Firdous, Sadia Sarwar, Fawad Ali Shah, Sobia Tabasum, Alam Zeb, Humaira Nadeem, Abir Alamro, **Amani Ahmed Alghamdi**, Arooj Mohsin Alvi, Komal Naeem, and Muhammad Sohaib Khalid. *Molecules.* 2021 Apr; 26 (8): 2347.
20. Role of NLRP3 Inflammasome Activation in Obesity-Mediated Metabolic Disorders. Kaiser Wani, Hind AlHarthi, **Amani Alghamdi**, Shaun Sabico and Nasser M. Al-Daghri. *Int J Environ Res Public Health* 2021 Jan 10;18(2): E511)
21. The effects of melatonin and vitamin D3 on the gene expression of BCL-2 and BAX in MCF-7 breast cancer cell line. Abir A. Alamro. Manal M. Al-Malky. Mohammed G. A. Ansari, Osama E. Amer, Abdullah M. Alnaami, Syed D. Hussain, Tlili A. Barhoumi, **Amani A. Alghamdi**, Samina H. Haq, Shaun Sabico and Nasser M. Al-Daghri. *Journal of King Saud University – Science* Volume 33, Issue 2, March 2021, 101287
22. The loss of microglia activities facilitates glaucoma progression in association with CYP1B1 gene mutation (p.Gly61Glu). **Amani Alghamdi**, Wadha Aldossary, Sarah Albahkali, Batoul Alotaibi and Bahauddeen M. Alrfaei. *PLoS ONE: (2020) 15 (11)*
23. CYP1B1 gene: Implications in glaucoma and cancer. Arwa Alsubait, Wadha Aldossary, Mamoon Rashid, **Amani Alghamdi** and Bahauddeen M. Alrfaei. *Journal of Cancer*, 2020; 11(16): 4652-4661. doi: 10.7150/jca.42669
24. Effect of Vitamin D Treatment on VDR Expression in Primary Cerebral Cortical Cells in Induced Oxidative Stress. Alsulami Ebtesam, Alokail Majel, Alghamedi Amani, Alamro Abir, Haq Samina. *Journal of Cellular Biotechnology*, vol. Pre-press, pp. 1-10, 2020
25. Therapeutic potential of vitamin D and curcumin in-vitro model of Alzheimer's disease. Alamro Abir, Alsulami Ebtesam, Almutlaq Moudi, **Amani Alghamdi**, Alokail Majed and Haq Samina. *Journal of Central Nervous System Disease*, 2020; 12: 1-8
26. Nasser M. Al-Daghri, Shaun Sabico, Hazim Al-Hazmi, Amal M. Alenad, Abeer Al-Amro, **Amani Alghamdi**, Syed Danish Hussain, George Chrousos and Majed S. Alokail. Circulating spexin levels are influenced by the presence or absence of gestational diabetes. *Cytokine*, January 2019; 13: 291–295.
27. Nasser M. Al-Daghri, Hazim A. Al-Hazmi, Abdulrahman Al-Ajlan, Mohammad S. Masouda, Abeer Al-Amro, **Amani Al-Ghamdi**, Abdullah M. Alnaami, Omar S. Al-Attas and Majed S. Alokail. Associations of spexin and cardiometabolic parameters among women with and without gestational diabetes mellitus. *Saudi Journal of Biological Sciences*, 2018; 25(4): 710–714

28. Chapter in book: Samina Hyder Haq, Iqraa Haq, Atheer Ali Alsayah, Abir Alamro and **Amani Alghamdi** (2018) *Epigenetics and Cartilage Regeneration*.
29. Tibor Hortobágyi, **Amani Alghamdi**, Julie Vallortigara, David Whitfield, David R. Howlett, Martin Broadstock, Clive Ballard, Johannes Attems, Dag Aarsland and Paul T. Francis. Relationship between pathology scores, clinical data and expression levels of proteasome sub-units in Alzheimer's disease and Lewy body dementias. *Alzheimer's & Dementia*, 2017; 13(7): 333–334.
30. **Alghamdi, A.**, Vallortigara, J., Howlett, D. R., Broadstock, M., Hortobágyi, T., Ballard, C., Thomas, A. J., O'Brien, J. T., Aarsland, D., Attems, J., Francis, P. T. and Whitfield, D. R. Reduction of RPT6/S8 (a proteasome component) and proteasome activity in the cortex is associated with cognitive impairment in Lewy body dementia. *Journal of Alzheimer's Disease*, 21 Mar 2017; 57(2): 373–386.
31. Julie Vallortigara, David R. Whitfield, **Amani Alghamdi**, William Quelch, Sindhoo Rangarajan, Mary Johnson, David Howlett, Tibor Hortobágyi, Johannes Attems, Clive Ballard, Alan J. Thomas, John T. O'Brien, Dag Aarsland and Paul T. Francis. Decreased levels of VAMP2 and monomeric alpha-synuclein correlate with duration of dementia. *Journal of Alzheimer's Disease*, 2016; 50(1): 101-110.
32. Whitfield, D. R., Vallortigara, J., **Alghamdi, A.**, Hortobágyi, T., Ballard, C., Thomas, A. J., O'Brien, J. T., Aarsland, D. and Francis, P. T. Depression and synaptic zinc regulation in Alzheimer disease, dementia with Lewy bodies, and Parkinson disease dementia. *American Journal of Geriatric Psychiatry*, February 2015; 23(2): 141–148.
33. Whitfield, D. R., Vallortigara, J., **Alghamdi, A.**, Howlett, D., Hortobágyi, T., Johnson, M., Attems, J., Newhouse, S., Ballard, C., Thomas, A. J., O'Brien, J. T., Aarsland, D. and Francis, P. T. Assessment of ZnT3 and PSD95 protein levels in Lewy body dementias and Alzheimer's disease: association with cognitive impairment. *Neurobiology of Aging*, December 2014; 35(12): 2836–2844.
34. Vallortigara, J., Rangarajan, S., Whitfield, D. R., **Alghamdi, A.**, Howlett, D., Hortobágyi, T., Johnson, M., Attems, J., Ballard, C., Thomas, A. J., O'Brien, J. T., Aarsland, D. and Francis, P. T. Dynamin1 concentration in the prefrontal cortex is associated with cognitive impairment in Lewy body dementia. *F1000Research*, 2014; 3, 1–9.

CONFERENCES AND POSTER PRESENTATIONS

- The Demystifying Long COVID-19 International Conference 2023 7-9 December 2023, *Effects of Post- COVID-19 Vaccination on Circulating Cytokine Profile*. **Amani Alghamdi**, Kaiser Wani, Shaun Sabico, Abdullah M. Alnaami, Syed Danish Hussain, Nasser M. AlDaghri.
- The Middle East Immunology Conference 2023 3-4 November Dubai, *Effects of Post- COVID-19 Vaccination on Circulating Cytokine Profile*. **Amani Alghamdi**, Kaiser Wani, Shaun Sabico, Abdullah M. Alnaami, Syed Danish Hussain, Nasser M. AlDaghri.

- ESN conference: 5th Conference on Advances in Molecular Mechanisms Underlying Neurological Disorders, Bath, UK, 23–26 June 2013
Reduction of Rpt6/S8 (a proteasome component) is associated with cognitive decline in LBD & AD. **Amani Alghamdi**, Tibor Hortobágyi, Clive G. Ballard, David Howlett, Dag Aarsland, John O'Brien, Johannes Attems, Paul T Francis
- AAICAD: Alzheimer's Association International Conference (AAIC) 2012, Vancouver, British Columbia, Canada, 14–19 July 2012
Proteasome and p62 protein impairment on frontal cortex and anterior cingulate in Lewy body dementias. **Amani Alghamdi**, Tibor Hortobágyi, Clive G. Ballard, Johannes Attems, John O'Brien, Dag Aarsland and Paul T. Francis
- ARUK: Alzheimer's Research UK Conference, Birmingham, 27–28 March 2012
Effect of proteasome and p62 protein impairment on frontal cortex and anterior cingulate in Lewy body dementias. **Amani Alghamdi**, Tibor Hortobágyi, Clive G. Ballard, Johannes Attems, John O'Brien, Dag Aarsland and Paul T. Francis
- AAICAD: International Conference on Alzheimer's Disease (ICAD), Paris, 16–21 July 2011
Impairment of the proteasome in prefrontal cortex in Lewy body dementias. Julie Vallortigara, **Amani Alghamdi**, Francis E. Warren, Clive G. Ballard, Tibor Hortobágyi, Johannes Attems, Dag Aarsland, Frank G. Boess, Marie-Therese Targett and Paul T. Francis
- Alzheimer's Research UK (ARUK), Leeds, 2011
Impairment of the proteasome in frontal cortex in Lewy body dementias. Julie Vallortigara, Francis E. Warren, Clive G. Ballard, Frank G. Boess, Dag Aarsland, Marie-Therese Targett, **Amani Alghamdi** and Paul T. Francis

COMPUTER SKILLS

- Word processing: Microsoft Word
- Spreadsheets: Microsoft Excel
- Presentations: Microsoft PowerPoint
- Information and communication: email and the internet
- Statistics and mathematics: SPSS and GraphPad Prism
- Bibliographies and manuscripts: EndNote

