

Dr. Abdul Hai Syed Agha

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Department of Biochemistry (MLT),
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Area of Interest: Biochemistry / Bioinformatics / Clinical Chemistry

Education:

- Ph.D. entitled “Synthetic analogue reactions of Nitrophenol: Effect of released NO from simulated Fe – Porphyrin on human erythrocytes” from Indian Institute of Technology – Kanpur (IIT-K)
- MS in Biochemistry, University of Allahabad.
- BS, University of Allahabad.

Post Doctoral Projects:

- 2003: Worked on a project entitled “Cloning and functional analysis of developmental genes in *Tribolium castaneum*”, under Prof. Dr. Martin Klingler, Institute for Zoologie, Friedrich-Alexander-Universitat, Erlangen-Nurnberg, Germany.
- 2003: Worked on a project titled “Functional model of the heme domain in NO-synthase” at IIT-Kanpur.
- 2002: Worked on a project titled “Initial characterization of novel genes during the development of the tracheal system of *Drosophila melanogaster*”, at Max Plank Institute of Molecular Cell Biology and Genetics, Dresden, Germany.

Work Experience:

- Presently working as an Assistant Professor, Department of Biochemistry, Faculty of Applied Medical Sciences, Northern Border University, Saudi Arabia from 2011.
- Worked as an Assistant Professor in the Department of Biochemistry, Faculty of Medicine, Garyounis University, Benghazi, Libya for 5 academic (2006 – 2011).
- Worked on establishing the WOS (Wholly Owned Subsidiary) of a NC, USA based company in Bangalore, India for starting the Software / Bioinformatic development from Jan 2006 to Sep 2006.

- Worked on a Bioinformatic project with a US based company in Raleigh, North Carolina, USA from Jan 2004 to July 2005. I had been involved on projects involving databases of Antisense RNA/ RNAi (RNA INTERFERENCE), Docking studies on Enzymes with an array of analogues using SYBYL for generating API's. Worked on programs (SYBYL, Cache) for Molecular Modelling and Drug Designing (MMDD).

**TEACHING EXPERIENCE IN FACULTY OF APPLIED MEDICAL SCIENCE,
NBU, ARAR:**

- Biochemistry I: Faculty of Applied Medical Science, Northern Border University, Arar, Saudi Arabia, 2011 - 2022
- Biochemistry II: Faculty of Applied Medical Science, Northern Border University, Arar, Saudi Arabia, 2011 - 2022
- Clinical Chemistry I: Faculty of Applied Medical Science, Northern Border University, Arar, Saudi Arabia, 2011 – 2022
- Clinical Chemistry – II: Faculty of Applied Medical Science, Northern Border University, Arar, Saudi Arabia, 2011 – 2022
- Medical Skills: Faculty of Applied Medical Science, Northern Border University, Arar, Saudi Arabia.

**Modules and Courses undertaken in Faculty of Medicine, Northern Border University,
Arar, Saudi Arabia:**

- Musculo Skeletal Module
- Laboratory Medicine Module
- Gastro-Intestinal Module
- Cardiovascular Module
- Nutrition Module
- Growth and Development
- Genetics and Molecular Biology

Coordinator: Served as a Coordinator, SKIN Module (SKI 222), Faculty of Medicine, NBU, Arar, KSA in the academic session 2013 and 2014.

CONFERENCES AND WORKSHOPS:

- Attended the “Blackboard learn workshop” organized by Deanship of e-learning and distance learning at Northern Borders University, Arar, Saudi Arabia held on 17th October 2017.
- Attended the training course on e-library organized at Faculty of Medicine and Applied Medical Sciences, Northern Borders University, Arar, Saudi Arabia held on 27th December 2016.
- Attended the workshop on “Applying Multiple Intelligence to make classes more interactive and interesting” organized by College of education at Northern Borders University, Arar, Saudi Arabia held on 29th November 2016.

- Attended the seminar on “Recent issues in international publications” organized at Northern Borders University, Arar, Saudi Arabia held on 20th April 2016

Research Papers in Refereed Journals:

Recent Publications from 2018 to 2023:

1. Naeem, H., Tofil, H.M., Soliman, M., **Hai, A.**, Zaidi, S.H.H., Kizilbash, N., Alruwaili, D., Ajmal, M. and Siddiq, M. "Reduced Graphene Oxide-Zinc Sulfide Nanocomposite Decorated with Silver Nanoparticles for Wastewater Treatment by Adsorption, Photocatalysis and Antimicrobial Action" *Molecules*, 2023, 28, 926. (Impact Factor: 4.927).
2. Hwuida KH. Maghoud, Buthaina Al Emsallati, Abdul Hai, "Failure of Asperger's Syndrome Management as a Result of Misdiagnosis", *International Journal of Science and Research (IJSR)*, https://www.ijsr.net/get_abstract.php?paper_id=SR22303024821, Volume 11 Issue 3, March 2022, 259 - 267, #ijsrnet
3. Syeda Huma H Zaidi, H. A Elawamy, S. A. Abdulla, R. A. El Sahly, Abdul Hai, A. H. Ansari, E. Z Younis, A. Basu, P. Barke, R. Thangarajan, F G Dawoodi, S. Dawoodi, S. Srikumar, V. Gunasakaran and Peela J. R. Prognostic and Diagnostic Importance of IgG and IgM Antibodies in COVID-19. *EC Pulmonology and Respiratory Medicine*. 2021: 10: 3: 87-91.
4. A. M. Jarari, M. G. Gaddar, S. Alsoaeiti, S. Srikumar, A. H. Baloch, P. Teja, N. M. Jarari, S. Nauhria, P. Barke, R. Thangarajan, A. Basu, Syeda Huma H. Zaidi, Abdul Hai, Yupa Min, F. G. Dawoodi, S. Dawoodi, A. Argi, V. Gunasakaran, J. R. Peela. Serum Follicular stimulating hormone, Luteinizing hormone, and Prolactin levels in Benign and Malignant Disorders of Breast in Libyan women. *European Journal of Molecular & Clinical Medicine*. 2021: 7: 7: 5287-5298.
5. Abdelbasset Amara, Saoussen Trabelsi, Abdul Hai. Clinical and Genetic Heterogeneity of Familial Early-Onset Diabetes: *International Journal of Medical Research & Health Sciences*, 2020, 9(2): 25-31
6. Nadeem Kizilbash, Jamal Alruwaili, Abdul Hai, Hassan M Khachfeand and Jaweria Ambreen "Water soluble carbon nanotubes increase agricultural yields" Review Article - *Journal of Biochemistry and Biotechnology* (2020) (Citations: 3).
7. Alruwaili J, Hai A. Adermatoglyphia. *Natl Med J India* 2019; 32 : 253
8. Syeda Huma H. Zaidi, Abdul Hai and B. R. Abo Nawar. Properties and Uses of Substituted Hydrazones. *Journal of Pharmaceutical and Applied Chemistry*. January 2018: 4: 1: 17-21.

First Author Publications:

1. Hai, A. "Development of Chronic Diabetic Complications and Role of Porphyrin Derivatives in Reducing Inflammation in Type 2 Diabetes Mellitus" *International Journal of Research Studies in Biosciences*. Volume 5, 2017.
2. Hai, A. & Kizilbash, N. "Increase in Activity of Na⁺, K⁺-ATPase by Porphyrin Compounds as Treatment for Dysnatremias caused by Diabetes Mellitus" *Pakistan Journal of Medical Sciences* 32(5), 2016.

3. Hai, A., Kizilbash, N., Alrowaili, M. & Zaidi, S.H.H. "Osmotic Fragility of Human Erythrocytes is Altered by Porphyrin Compounds" International Journal of Research Studies in Biosciences 2015. (Citation:1)
4. Hai, A., Kizilbash, N., Alruwaili, J. & Zaidi, S.H.H. "Porphyrin Compounds Inhibit Ca²⁺-ATPase of Erythrocyte Plasma Membrane" International Journal of Research Studies in Biosciences 3(2), 2015
5. Hai, A., Kizilbash, N., Alruwaili, J. & Zaidi, S.H.H. "Erythrocyte Acetylcholinesterase-Inhibitory Activity of Porphyrin Compounds" International Journal of Research Studies in Biosciences, 2014.
6. Hai, A., Kizilbash, N., Zaidi, S.H.H. & Alruwaili, J. "Indirect Evidence for Self Association of Muscle Fatty Acid Binding Protein from *Locusta migratoria*" International Journal of Bioscience, Biochemistry and Bioinformatics 4(5): 419-422, 2014.
7. Hai, A., Kizilbash, N., Zaidi, S.H.H., Alruwaili, J. & Shahzad, K. "Differences in Structural Elements of Bcr-Abl Oncoprotein Isoforms in Chronic Myelogenous Leukemia" Bioinformation 10(3), 108-114, 2014. (Citations: 39)
8. Hai, A., Kizilbash, N. & Alruwaili, J. "α₂-μ-Globulin Fragment (A2-f) from Kidneys of Male Rats forms Multimers In Vitro" International Journal of Bioscience, Biochemistry and Bioinformatics 4(2): 121-124, 2014.
9. Hai, A., Kizilbash, N. & Alruwaili, J. "Proteomics Technology as an Investigative Tool in Plant Science" Global Advanced Research Journal of Plant Science 2(2): 013016, 2013. (Citations: 2)
10. Hai, A., Kizilbash, N., Zaidi, S.H.H. & Alruwaili, J. "Porphyrin derivatives as inhibitors for acetylcholinesterase from *Drosophila melanogaster*" Bioinformation 9(12): 645-649, 2013. (Number of citation: 6)
11. Hai, A. Kizilbash, N., Zaidi, S.H.H. & Alruwaili, J. "Binding interactions of porphyrin derivatives with Ca²⁺ ATPase of sarcoplasmic reticulum (SERCA1a)" Bioinformation 9(8): 409-413, 2013. (Citations: 2).
12. Hai, A. & Kizilbash, N. "α₂-μ-Globulin Fragment (A2-f) from Kidneys of Male Rats" Bioinformation 9(3): 145-149, 2013. (Number of citation: 5)

Co-author Publications:

1. Naeem, H., Tofil, H.M., Soliman, M., **Hai, A.**, Zaidi, S.H.H., Kizilbash, N., Alruwaili, D., Ajmal, M. and Siddiq, M. "Reduced Graphene Oxide-Zinc Sulfide Nanocomposite Decorated with Silver Nanoparticles for Wastewater Treatment by Adsorption, Photocatalysis and Antimicrobial Action" *Molecules*, 2023, 28, 926. (Impact Factor: 4.927).
2. Hwuida KH. Maghoud, Buthaina Al Emsallati, Abdul Hai, "Failure of Asperger's Syndrome Management as a Result of Misdiagnosis", *International Journal of Science and Research (IJSR)*, https://www.ijsr.net/get_abstract.php?paper_id=SR22303024821, Volume 11 Issue 3, March 2022, 259 - 267, #ijsrnet

3. Mahmood, N., Assefi, M., Kizilbash, N., **Hai, Abdul.**, Zaidi, S.H.H. & Ambreen, J. "Current State of Technology for Therapeutic Treatment of Breast Cancer" International Journal of Scientific Research, 2022.
4. Syeda Huma H Zaidi, H. A Elawamy, S. A. Abdulla, R. A. El Sahly, Abdul Hai, A. H. Ansari, E. Z Younis, A. Basu, P. Barke, R. Thangarajan, F G Dawoodi, S. Dawoodi, S. Srikumar, V. Gunasakaran and Peela J. R. Prognostic and Diagnostic Importance of IgG and IgM Antibodies in COVID-19. EC Pulmonology and Respiratory Medicine. 2021: 10: 3: 87-91.
5. A. M. Jarari, M. G. Gaddar, S. Alsoaeiti, S. Srikumar, A. H. Baloch, P. Teja, N. M. Jarari, S. Nauhria, P. Barke, R. Thangarajan, A. Basu, Syeda Huma H. Zaidi, Abdul Hai, Yupa Min, F. G. Dawoodi, S. Dawoodi, A. Argi, V. Gunasakaran, J. R. Peela. Serum Follicular stimulating hormone, Luteinizing hormone, and Prolactin levels in Benign and Malignant Disorders of Breast in Libyan women. European Journal of Molecular & Clinical Medicine. 2021: 7: 7: 5287-5298.
6. Abdelbasset Amara, Saoussen Trabelsi1, Abdul Hai. Clinical and Genetic Heterogeneity of Familial Early-Onset Diabetes: International Journal of Medical Research & Health Sciences, 2020, 9(2): 25-31
7. Nadeem Kizilbash, Jamal Alruwaili, Abdul Hai, Hassan M Khachfeand and Jaweria Ambreen Water soluble carbon nanotubes increase agricultural yields” Review Article - Journal of Biochemistry and Biotechnology (2020) Volume 3, Issue 1
8. Kizilbash, N., Hai, A., Zaidi, S.H.H. & Alruwaili, J. “Delivery of Sulfonylurea Antihyperglycemic Drugs across Phospholipid Membranes” International Journal of Advanced Research 2(3): 21-29, 2014.
9. Kizilbash, N., Hai, A., Zaidi, S.H.H. & Alruwaili, J. “Human Erythrocyte Acetylcholinesterase Inhibition by Porphyrin Compounds” International Journal of Advanced Research 2(3): 44-50, 2014.
10. Zaidi, S.H.H., Hai, A., Kizilbash, N., & Alruwaili, J. “Derivatives of β Phenylisoserine Side Chain of Paclitaxel (Taxol) with Varying Hydrophobicity” International Journal of Advanced Research 2(1): 573-577, 2014.
11. Kizilbash, N., Hai, A. & Alruwaili, J. “Model of β -Sheet of Muscle Fatty Acid Binding Protein of *Locusta migratoria* Displays Characteristic Topology” Bioinformation 9(20): 1003-1009, 2014.
12. Shahzad, K., Hai, A., Ahmed, A., Kizilbash, N. & Alruwaili, J. “A Structure-based model for the decreased activity of Ala222Val and Glu429Ala Methylenetetrahydrofolate Reductase (MTHFR) mutants” Bioinformation 9(18): 929-936, 2013 (Citations: 37).
13. Shahzad, K., Hai, A., Kizilbash, N., Ambreen, J. & Alruwaili, J. “Insight from β C1 protein model for implication in cotton leaf curl disease” Bioinformation 9(9): 471476 (2013)
14. Kizilbash, N., Hai, A. & Alruwaili, J. “Novel chimeric protein as therapeutic vaccine against Hepatitis B virus” International Journal of Bioscience, Biochemistry and Bioinformatics 3(5): 497-500, 2013.
15. J.R.Peela, A. M. Jarari, S. S. Dastagir, E. A. Salh, A. Hai, A. K. Rawal1 and Syeda Huma H. Zaidi, Serum Uric Acid Levels as an adjunct in the assessment of certain Psychiatric Disorders in Libya, JBMAS-Journal of Basic Medical And Allied Sciences/volume1/issue1.

16. Quantitative Analysis of Gallstones in Libyan Patients. Jaraari A, Jagannadha Rao , Patil TN , Hai A, Awamy HA, El Saeity SA, AbdelKafi EB, El- Hemri MN, Tayesh MF. Libyan J Med 2010; 5: Article No. 091020. PMID:21483549 [PubMed] PMCID: PMC3066788
17. Cardiac Biomarkers: The Troponins and CK- MB.J.R. Peela, Abdalla M. Jarari¹, Abdul Hai¹, Avinaash K. Rawal¹, Shoba Devi Kolla², Shakila Sreekumar³, Lokesh Khurana⁴, Narsinga Rao Sidhanathi⁵ ,India. Ibnosina Journal of Medicine and Biological Sciences.Vol 2 ,No 5,(2010),pages 190-197.

Abstracts Published and Presented:

- Hai, A. & Kizilbash, N. “ α 2- μ -Globulin fragment (A2-f) from kidneys of male rats” (published abstract) Global Medical Discovery [ISSN 1929-8536] database (June, 2013) Ontario, Canada.
- Kizilbash, N., Hai, A. & Asif, S. “Development of Drug Delivery System for Diclofenac Sodium for Improvement of Bioavailability” (published abstract) 4th International Conference on Biotechnology for Wellness Industry (4th ICBWI) June 20-21, 2012, Kuala Lumpur, Malaysia.
- Hai, A., Kizilbash, N. & Shabbir, M. “Microemulsion-based Drug Delivery System for Levofloxacin Hemihydrate” (published abstract) 4th International Conference on Biotechnology for Wellness Industry (4th ICBWI) June 20-21, 2012, Kuala Lumpur, Malaysia.
- A presentation entitled “Differential docking patterns of protein nitrophorin and its precursor analogues on the activity of AChE using SYBYL” at the 17th Scientific Meeting of the Faculty of Pharmacy from 29th to 30th April 2009, Benghazi, Libya Abdul Hai, Syeda Huma H. Zaidi, Abdullah Jarari.
- Presented a poster entitled Microwave assisted solvent free approach for the synthesis of Dipeptides containing β -Phenylisoserine derivative at the 11th International Scientific Conference 7th to 9th December 2007, Tripoli, Libya. Syeda Huma H.Zaidi, Abdul Hai, and Musa A. Ahmed.
- Kizilbash, N., Hai, A. & Asif, S. “Development of Drug Delivery System for Diclofenac Sodium for Improvement of Bioavailability” (published abstract) 4th International Conference on Biotechnology for Wellness Industry (4th ICBWI) June 20-21, 2012, Kuala Lumpur, Malaysia.
- Abdul Hai, 7th Asia Pacific BioTech Congress, July 13 – 15, 2015 at Beijing, China, Potential Applications of Porphyrin Derivatives as Photosensitizing Agents in Cancer Therapy.

Research Grants:

- Principal Investigator: Research Grant entitled “HbA_{1c} Level as a Biomarker for Chronic Diabetes in Neonates of Arar” funded by Ministry of Higher Education (Saudi Arabia) / Dean Research And Development, Northern Border University, Arar, KSA successfully completed.
- Co-P.I. of research grant entitled: “Clinical and genetic characterization of subjects and families with congenital limb defects and investigations of sequence variations in

HODX13 and ZRS/LMBR1 genes” submitted to Ministry of Higher Education (Saudi Arabia), September ‘13