

AMER AHMED

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CURRICULUM VITAE

BASIC INFORMATION

Place and Date of Birth: Ibb, Yemen, 24.03.1986

Marital Status: Single

Nationality: Yemeni

Corresponding address: Via Cesare Battisti n. 1, Siena, 53100, Italy

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EDUCATION

PhD in life Science,

Curriculum: cell biology, pathophysiology, and pharmacology

The University of Siena, Siena, Italy

Oct 2018- In Progress

Thesis: “In vitro Functional interplay between Perivascular adipose tissue and flavonoids: critical role of beta3 receptor and superoxide anion”

Supervisor: Prof. Dr. Massimo Valoti and Prof. Dr. Fabio Fusi

Master in Biochemistry

The Islamia University of Bahawalpur, Bahawalpur, Pakistan

Sep 2014–Nov 2016

Thesis: “Screening and Characterization of β -Glucosidase of Rhizospheric Bacteria Isolated from Cholistan Desert”.

Supervisor: Prof. Dr. Faiz ul Hassan Nasim

Bachelor in Biochemistry

The Islamia University of Bahawalpur, Bahawalpur, Pakistan

Sep 2010 –Aug 2014

Thesis: “Screening of Bacterial Isolates from Cholistan Desert for β -Glucosidase gene Using Molecular Approach”.

Supervisor: Prof. Dr. Faiz ul Hassan Nasim

RESEARCH INTERESTS

- Ion channels and associated channelopathies
 - Molecular mechanism underpinning obesity, diabetes, atherosclerosis, and cancers
 - Molecular mechanism underpinning human neurodegenerative diseases
 - Gut Microbiota-brain axis on obesity and metabolic syndrome
 - Drug discovery and development, and preclinical testing
 - Molecular mechanisms regulating the function of endothelium and vascular smooth muscle cells
 - Mitochondrial biology, mitochondrial fission and fusion and its relation to human diseases
 - Animal models of human cardiovascular diseases
 - Role of perivascular adipose tissues in regulation of the vascular tone in health and diseases
 - Epigenetics in cardiovascular health and diseases
 - Molecular mechanism underpinning the cardio-protective role of natural products and nutraceuticals like flavonoids
 - Small molecules signaling, and redox biology
 - Cancer pathogenesis, cancer epigenetics modification, cancer metabolism, and therapeutics
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RESEARCH EXPERIMENT AND TOOLS

- Laboratory animals handling, anaesthesia, decapitation, and internal organs dissection
- Experience in blood vessels (conduit and resistant) on organ bath and wire myography
- Vasorelaxation as well as vasoconstriction and their mechanism of action
- Culturing arterial preparations
- Animal cell culture; endothelial and smooth muscles cell lines i.e., EAhy926 and A7r5
- MTT cell viability assay
- Precipitation, dialysis, chromatography
- Microscopy, centrifugation, spectrophotometry
- Nucleic acids extraction, quantification, restriction digestion, separation
- Protein extraction, quantification and analysis
- Gel electrophoresis: agarose and polyacrylamide gels
- Plasmid prep, transformation, PCR and cDNA preparation
- Basic microbiological techniques: sterilization, streaking, spreading, etc.
- Microbes identification using biochemical and 16s rRNA analysis
- Microbial enzymes extractions, purification, and characterization
- Extraction of nucleic acids and protein sequences from databases
- Analysis of the biomolecules sequences such as alignments, similarity search using BLAST online tools
- Protein structures prediction: secondary and tertiary structures e.g., swiss-modeling
- Analysis of variance: one-way ANOVA, repeated measure-ANOVA, two-way ANOVA, paired and unpaired student's t test
- Linear and non-linear regressions
- Analysis of Area under curve, IC50, EC50, and Emax.
- Softwares: MS office (word, excel, powerpoint), graphpad prism, SPSS, endnote, ChemSketch etc.

PUBLICATIONS

- Ahmed, A.** 2021. Flavonoids and cardiovascular risk factors: a review. *Pharmadvances*, 3(3):521-547
- Saponara, S., Fusi, F., Iovinelli, D., **Ahmed, A.**, Trezza, A., Spiga, O., Sgaragli, G., Valoti, M., 2021. Flavonoids and hERG channels: Friends or foes? *European Journal of Pharmacology*, 899, 174030. IF= 4.432
- Carullo, G., **Ahmed, A.**, Trezza, A., Spiga, O., Brizzi, A., Saponara, S., Fusi, F., Aiello, F., 2021. A multitarget semi-synthetic derivative of the flavonoid morin with improved in vitro vasorelaxant activity: Role of CaV1.2 and KCa1.1 channels. *Biochemical Pharmacology* 185, 114429. IF= 5.858
- Carullo, G., **Ahmed, A.**, Trezza, A., Spiga, O., Brizzi, A., Saponara, S., Fusi, F., Aiello, F., 2020. Design, synthesis and pharmacological evaluation of ester-based quercetin derivatives as selective vascular KCa1.1 channel stimulators. *Bioorganic Chemistry* 105, 104404. IF=5.275
- Lamraoui, I., Eltoukhy, A., Wang, J., Lamraoui, M., **Ahmed, A.**, Jia, Y., Lu, T., Yan, Y., 2020. Biodegradation of Di (2-Ethylhexyl) Phthalate by a novel Enterobacter spp. Strain YC-IL1 Isolated from Polluted Soil, Mila, Algeria. *International Journal of Environmental Research and Public Health* 17, 7501. IF=3.390
- Carullo, G., **Ahmed, A.**, Fusi, F., Sciubba, F., Di Cocco, M.E., Restuccia, D., Spizzirri, U.G., Saponara, S., Aiello, F., 2020a. Vasorelaxant Effects Induced by Red Wine and Pomace Extracts of Magliocco Dolce cv. *Pharmaceuticals* 13, 87. IF=5.863

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- Waratchareeyakul, W., Fusi, F., Durante, M., **Ahmed, A.**, Knirsch, W., Mas-Claret, E., Mulholland, D.A., 2020. Vasorelaxing Activity of Stilbenoid and Phenanthrene Derivatives from *Brasiliorchis porphyrostele*: Involvement of Smooth Muscle CaV1.2 Channels. *Planta Med* 86, 631-642. IF=3.352
- Cuong, N.M., Son, N.T., Nhan, N.T., Khanh, P.N., Huong, T.T., Tram, N.T.T., Sgaragli, G., **Ahmed, A.**, Trezza, A., Spiga, O., Fusi, F., 2020. Vasorelaxing Activity of R-(−)-3'-Hydroxy-2,4,5-trimethoxydalbergiquinol from *Dalbergia tonkinensis*: Involvement of Smooth Muscle CaV1.2 Channels. *Planta Med* 86, 284-293. IF=3.352
- Carullo, G., Durante, M., Sciubba, F., Restuccia, D., Spizzirri, U.G., **Ahmed, A.**, Di Cocco, M.E., Saponara, S., Aiello, F., Fusi, F., 2019. Vasoactivity of Mantonico and Pecorello grape pomaces on rat aorta rings: An insight into nutraceutical development. *Journal of Functional Foods* 57, 328-334. IF=4.451
- Ahmed, A.**, Sumreen, A., Bibi, A., Nasim, F.H., Batool, K., 2019. *In silico* Approach to Elucidate Factors Associated with GH1 β -Glucosidase Thermostability. *J Pure Appl Microbiol* 13, 1953-1968.
- Ahmed, A.**, Nasim, F.H., Batool, K., Bibi, A., Rafi, S., 2018. Characterization of Thermophilic β -Glucosidase of Rhizospheric Bacterial Strain (LSKB15) Isolated from Cholistan Desert, Pakistan. *American Journal of Microbiological Research* 6, 173-180.
- Ahmed, A.**, Bibi, A., 2018. Fungal cellulase; production and applications: minireview. *Int. J. Health Life Sci* 4, 19-36. Cited by 18
- Ahmed, A.**, Aslam, M., Ashraf, M., Nasim, F.H., Batool, K., Bibi, A., 2017. Microbial β -Glucosidases: Screening, Characterization, Cloning and Applications. *Journal of Applied & Environmental Microbiology* 5, 57-73. Cited by 8
- Ahmed, A.**, Batool, K., Bibi, A., 2017. Microbial β -glucosidase: sources, production and applications. *Journal of Applied & Environmental Microbiology* 5, 31-46. Cited by 63

FELLOWSHIPS, HONORS AND AWARDS

- Fully funded PhD scholarship, The University of Siena, Italy, 2018-2021 (in progress)
 - Fully funded PhD scholarship, Chinese Academy of Agricultural Science, China, 2018 (Left)
 - Golden Medal for attaining 1st position in MS (Biochemistry), the Islamia University of Bahawalpur, Pakistan, 2017
 - Cultural Exchange Program Scholarship for Master, Ministry of Higher Education, Yemen, 2014.
 - Cultural Exchange Program Scholarship for Bachelor, Ministry of Higher Education, Yemen, 2010.
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WORK EXPERIENCES

Lecturer at Punjab College, Bahawalpur, Pakistan	Mar 2017-July 2018
Visiting lecturer, Teaching Enzymology and metabolism to bachelor students, The Islamia University of Bahawalpur, Pakistan	Sep 2014-Jun 2015

COURSES, CONFERENCES AND PRESENTATIONS

TRAINING COURSES

- Animal experimentation and bioethics course; 48 hour course, organized by The university of Siena, Italy, during 20th October to 1st December, 2020

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- Training course on workplace health and safety in high-risk scientific areas, 16 hours course, organized by The University of Siena, Italy, during 5-6 March 2019
- Biosafety Training Workshop for Young Scientists organized by American Society of Microbiology, NAYS (Pakistan), and The Islamia University of Bahawalpur at the Department of Biochemistry and Biotechnology in The Islamia University of Bahawalpur, Pakistan, April 23, 2014.

CONFERENCES POSTORS/ABSTRACT:

- Fusi F, Trezza A, Iovinelli D, **Ahmed A**, Spiga O, Sgaragli G, Valoti M, Saponara S The surge of flavonoids as novel, fine regulators of cardiovascular ion channels: friends or foes?. 1st Joint meeting on Natural Products Pharmacology SIF “submitted”.
- Gabriele C, Sarah M, **Ahmed A**, Trezza A, Spiga O, Saponara S, Fusi F, Aiello F. Sclareolide-based small molecules, TRPV4/CaV1.2 modulators, as new vasodilating agents. 7th International Electronic Conference on Medicinal Chemistry.
- Aluani D, Yordanov Y, **Ahmed A**, Gorelli B, Fusi F, Valente A, Riganti C, Tzankova V, Saponara S. *In vitro* biocompatibility and cardiovascular safety evaluation of ruthenium organometallic compounds, effective against MDR cancer cells. 4th Annual Conference “New diagnostic and therapeutic tools against multidrug resistant tumors”, Prague, 6-8 September 2021
- Saponara S, **Ahmed A**, Frosini M, Gorelli B, Fusi F. In vitro assessment of venom cardiovascular pharmacology and safety: a trip from single cells to isolated organs. EUVEN 2021: 1st International Congress of the European Venom Network EUVEN (CA19144), 14-16 September 2021 – Virtual Congress
- **Ahmed A**, Mancini G, Cosi S, Fusi F, Valoti M. “Modulation by flavonoids of vascular reactivity to noradrenaline: role of perivascular adipose tissue (PVAT)” in 40th congress of Italian Society of pharmacology digitally held between 08-13 March, 2021.
- **Ahmed A**, Tagliafierro S, Conti S, Fusi F, Valoti M. Modulation of quercetin vasoactivity by perivascular adipose tissues on rat aorta rings. In 39th congress of Italian Society of pharmacology held in Florence between 20-23 November, 2019.
- **Ahmed A**, Nasim FH, Ejaz S. “Screening of Bacterial Isolates from Cholistan Desert for β -Glucosidase gene Using Molecular Approach” in 12th International Conference of Biochemistry and Molecular Biology organized by Pakistan Society for Biochemistry and Molecular Biology (PSBMB) at The Islamia University of Bahawalpur, December 4-7, 2014

CONFERENCES PARTICIPATION

- 1st International Conference of Biochemistry, Biotechnology and Biomaterials organized by the University of Agriculture, Faisalabad, Pakistan, February 22-24, 2016
- 26th National and 14th International Chemistry Conference organized by Chemical Society of Pakistan (CSP) at The Islamia University of Bahawalpur, October 05-08, 2015

SUPERVISION AND MENTORSHIP

Co-Supervisory

During PhD, I monitored the following master students during their thesis

- Carmelo Spinella
- Gioele Mancini

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- Stefania Cosi
- Gemma Elisabetta Di Pumpo
- Anna Liace

Mentorship

Practical course on **pharmacological assays and dosages** to the students of chemistry and pharmaceutical technology, department of chemistry, pharmacy, and biotechnology, the University of Siena, during 08-26 March, 2021

LANGUAGES

Arabic: Native

English: Medium of education (Fluent)

REFERENCES

Prof. Dr. Fabio Fusi

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The University of Siena, Italy

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