

CURRICULUM VITAE

Personal Data

Name : Abir Ghanouchi-Ben Bacha
Sex and Marital Status : Female, Married with 3 children
Nationality : Tunisian
Occupation : Professor of Biochemistry
Languages : Arabic, French and English
Research Interest : Biotechnology and Autism biomarkers

Contact Information

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Diplomas

- **2013:** Academic Habilitation Degree, HDR Biological Engineering (ENIS - Sfax University - Tunisia)
- **2007:** PhD degree in Biological Engineering (ENIS - Sfax University- Tunisia)
- **2003:** Master degree in Biological Engineering (ENIS - Sfax University- Tunisia)
- **2000:** Bachelor degree in Biological Sciences in (FSS - Sfax University- Tunisia)

Work experience

✓ *Teaching*

April 2020 – Till date : Professor at King Saud University, Science College, Biochemistry Department
2013 – 2020 : Associate Professor at King Saud University, Science College, Biochemistry Department
2009 – 2013 : Assistant Professor at King Saud University, Science College, Biochemistry Department
2007 – 2009 : Assistant Professor at Faculty of Sciences of Sfax – Sfax University-Tunisia
2003 – 2006 : Assistant at the at Faculty of Sciences of Sfax – Sfax University- Tunisia

✓ *Research*

- Researcher member at Laboratoire de Biochimie et de Génie Enzymatique des Lipases, ENIS, Tunisia, University of Sfax (2000-2011).
- Researcher at Shaikh El-Amoudi Research Chair, King Saud University, Saudi Arabia (2010-2012).
- Researcher member at Laboratory of Plant Biotechnology Applied to Crop Improvement, Faculty of Science of Sfax, University of Sfax, (2011-Present).
- Reviewer for several journals.
- Supervision of Thesis, Master Thesis and Senior Projects.

✓ *Research Grants*

- Principal investigator of a Research Project N° **RGP-VPP-070** " Biochemical and Structural Characterization of secreted phospholipases A₂" financed by King Saud University, Kingdom of Saudi Arabia, (4/2011 - 4/2012).

- Co-investigator in a Research Project N° **RGP-VPP-005** "Treatment and preventive strategies of autism disease" financed by King Saud University, Kingdom of Saudi Arabia, (4/2011 - 4/2012).
- Researcher in a Research Project “Molecular detection of viruses and bacteria in treated waste water and in well water in the governorate of Al Riyadh, Saudi Arabia” N° **12-ENV2528-02** supported by King Abdulaziz City for Science and Technology (KACST), (4/2014 - 4/2016).
- Co-investigator in a Research Project N° **RG-1435-083** financed by King Saud University, Kingdom of Saudi Arabia, (2/2017 - 2/2019).
- Co-investigator in a Research Project N° **RG-1441-471** financed by King Saud University, Kingdom of Saudi Arabia, (2/2020 - 2/2021).
- Co-investigator in a Research Project N° **RGP-070** financed by King Saud University, Kingdom of Saudi Arabia, (5/2020 - 5/2023).
- Principal investigator in a Research Project N° **IFKSUOR3-230** financed by King Saud University, Kingdom of Saudi Arabia, (5/2023 - 5/2024).
- Co-investigator in a Research Project N° **20037-cos-2023-8-28-W** financed by Qassim University, Kingdom of Saudi Arabia, (2023).

Teaching Activities

✓ *Undergraduate courses*

- BCH 202: General Biochemistry
- BCH 312: Biochemical Calculations
- BCH 275: Blood Biochemistry
- BCH 320: General Enzymology
- BCH332: Physical Biochemistry
- BCH 340: Metabolism 1
- BCH 440: Metabolism 2
- BCH 445: Biochemistry of Nutrition
- BCH454: Carcinogens and Cytotoxicity
- BCH 485: Training for Research Principles
- BCH 498: Research 1
- BCH 499: Research 2

✓ *Postgraduate courses*

- BCH 590: Selective Topics in Biochemistry
- BCH 545: Inborn Errors of Metabolism
- BCH 540: Advanced Studies in Metabolism
- BCH 530: Methods in Biochemistry
- BCH 570: Biochemistry of Cell Membrane
- BC 602: Advances in Biochemical Techniques
- BCH 601: Advances in Biotechnology
- BCH 607: Recent Advances in Metabolism
- BCH 609: Nanotechnology

✓ *Supervision of PhD and Master Thesis*

- Supervised 12 Masters of Biochemistry and Molecular and Cellular Biology students and 3 PhD students. Completed theses under my supervision are 10 Masters and 2 PhD.

Other Professional Activities

✓ *College Committees*

- Community services committee
- Strategy plan committee

✓ *Department Committees*

- Alumni affairs and community service committee
- Academic Supervision committee
- Postgraduate and scientific research committee
- Accreditation, quality and development committee
- Standing committee for the demonstrators and caring outstanding

✓ *Reviewer of the following journals*

- Plos One
- Processes
- Molecules
- Brain Sciences
- Protein Journal
- Lipids in Health and Disease
- Journal of Advanced Research
- Applied Biochemistry and Biotechnology
- Indian Journal of Biochemistry and Biophysics

Publications

1. Jemel I, Krayem N, Jlidi H, **Ben Bacha A**, Alonazi M, Charguia R, Alzahrani AA, Aifa S, Mnif S. Structural insights and biomedical potential of biosynthesized silver nanoparticles: antibacterial activity, anti-biofilm and cancer cell inhibition. *PeerJ*. 2025 Jul 1;13:e19608.
2. Alzahrani AA, Krayem N, Alonazi M, Al-Shehri E, Horchani H, **Ben Bacha A**. Efficient Immobilization of Lipase for Sustainable Lipid Degradation and Wastewater Bioremediation. *ACS Omega*. 2025 Jun 18;10(25):26913-26922.
3. Khayyat AIA, Alabdali AN, Alonazi M, Alzahrani AA, Al-Shehri E, **Ben Bacha A**. Luteolin mitigates oxidative stress and multi-organ impairment in a propionic acid-induced rodent model of autism. *Front Nutr*. 2025 May 27;12:1583119
4. Alzahrani AA, Krayem N, Alonazi M, Al-Ghamdi JM, Horchani H, Ben Bacha A. Versatile biocatalyst: lipase from *Streptomyces gobitricini* for ester synthesis and detergent innovation. *Front Bioeng Biotechnol*. 2025 May 16;13:1589087.
5. El-Sayed NNE, Krayem N, Derbala HA, Kamal S, Bukhari SNA, El-Ashrey MK, Almarhoon ZM, Soliman Alterary S, **Ben Bacha A**. New Nitrogen-, Oxygen-, and Sulfur-Containing Heterocyclic Compounds as Anti-Colon Cancer Agents: Synthesis, Multitargeted Evaluations, Molecular Docking Simulations and ADMET Predictions. *Pharmaceuticals*. 2025; 18(6):801.
6. Alabdali A, **Ben Bacha A**, Alonazi M, Al-Ayadhi LY, Alanazi ASJ and El-Ansary A (2025) Comparative evaluation of certain biomarkers emphasizing abnormal GABA inhibitory effect and glutamate excitotoxicity in autism spectrum disorders. *Front. Psychiatry* 16:1562631.
7. Krid S, Krayem N, Frikha-Gargouri O, **Ben Bacha A**, Alonazi M, Horchani H, Triki MA. Evaluating the antifungal potential of six essential oils against fungi causing wilt and dieback on olive trees. *Cell Mol Biol (Noisy-le-grand)*. 2025 Apr 26;71(4):67-77.
8. Alzahrani AA, Krayem N, Alonazi M, Al-Shehri E, Aloteibi L, Horchani H, **Ben Bacha A**. Exploring the antioxidant and enzyme inhibitory potential of the *Streptomyces gobitri-*

- cini strain: a promising biotechnological resource. *Cell Mol Biol (Noisy-le-grand)*. 2025 Apr 15;71(3):76-87.
9. Krayem N, Jribi F, Alonazi M, Amina M, Horchani H, Karray A, Cherif S, **Ben Bacha A**. Unveiling the therapeutic potential: anti-inflammatory and antioxidant properties of selective medicinal plants. *Cell Mol Biol (Noisy-le-grand)*. 2025 Apr 15;71(3):88-100.
 10. El-Ansary, A.; Alabdali, A.; **Ben Bacha, A.**; Alonazi, M.; Al-Ayadhi, L.Y. Combining ROC Curves to Improve Diagnostic Values for Vitamin D3 and Chloride Co-Transporters in Connection to Epilepsy and Sleep Problems, Comorbidities in Autism Spectrum Disorders. *Clin. Transl. Neurosci.* 2025, 9, 21.
 11. Alabdali AN, **Ben Bacha A**, Alonazi M, Abuaish S, Almotairi A, Al-Ayadhi L, El-Ansary AK. Impact of GABA and nutritional supplements on neurochemical biomarkers in autism: a PPA rodent model study. *Front Mol Neurosci.* 2025 Mar 18;18:1553438.
 12. Ben Abdelmalek I, Alhmdi TAA, **Ben Bacha A**, Krayem N. Unlocking the therapeutic potential of *Saussurea costus*: purification and functional characterization of α -amylase inhibitors. *Front Bioeng Biotechnol.* 2025 Jan 27;13:1535751. doi: 10.3389/fbioe.2025.1535751. Erratum in: *Front Bioeng Biotechnol.* 2025 Mar 21;13:1592365.
 13. Fares Elghali, Dhouha Msalbi, Fakher Frikha, Mona Alonazi, Emna Sahli, Bochra Hakim, Sami Mnif, **Abir Ben Bacha**, Sami Aifa. Evaluation of the Combinatory Anticancer Effect of Chemotherapeutic Compounds and Prodigiosin against HCT-116, LoVo, and A549 Cell lines. *ACS Omega* 2024, 9, 49, 48112–48124
 14. Almayouf M.A, Charguia R, Awad M.A, **Ben Bacha A**, Ben Abdelmalek I. Biomedical application of silver nanoparticle biosynthesized by *Saussurea costus* leaves and roots. *Pharmaceuticals (Basel)*. 2024 Oct 15;17(10):1371. doi: 10.3390/ph17101371.
 15. **Ben Bacha A**, Alonazi M, Aljehani E.M, Alabdali A.N, Bhat R, Almuayrifi M, Horchani H, El-Ansary A. The therapeutic and protective effects of luteolin against propionic acid-induced endoplasmic reticulum stress and mitochondrial dysfunction in brain of ASD rat model. *International Journal of Pharmacology*. 2024; 20: 1479-1487.
 16. Alasmary FAS, Abdullah DA, Masand VH, **Ben Bacha A**, Omar Ebeid AM, El-Araby ME, Alafeefy AM. Synthesis, molecular modelling, and biological evaluation of novel quinoxaline derivatives for treating type II diabetes. *J Enzyme Inhib Med Chem.* 2024 Dec;39(1):2395985.
 17. El-Ansary A, Alfawaz HA, **Ben Bacha A**, AL-Ayadhi L. Assessing the COX-2/PGE2 Ratio and Anti-Nucleosome Autoantibodies as Biomarkers of Autism Spectrum Disorders: Using Combined ROC Curves to Improve Diagnostic Values. *Current Issues in Molecular Biology*. 2024; 46(8):8699-8709.
 18. El-Ansary A, Alfawaz HA, **Ben Bacha A**, Al-Ayadhi LY. Combining Anti-Mitochondrial Antibodies, Anti-Histone, and PLA2/COX Biomarkers to Increase Their Diagnostic Accuracy for Autism Spectrum Disorders. *Brain Sci.* 2024 Jun 5;14(6):576.
 19. Alsubaiei SRM, Alfawaz HA, Amina M, Bhat RS, **Ben Bacha A**. and El-Ansary A. Crude Artichoke Extract's Antioxidant, Anti-Inflammatory and Autophagy-Promoting Effects on the Cancer Cell Line SH-SY5Y. *International Journal of Pharmacology*, 2024, 20(5), 806-816.
 20. Alonazi M, **Ben Bacha A**, Khayyat AIA, Alzahrani AA and El-Ansary AK, 2024. Bee Pollen Effects on Methylmercury-Induced Intestinal Leakiness as Co-Morbidity of Autism: Experimental Approach. *International Journal of Pharmacology*, 20: 361-372.
 21. **Ben Bacha A**, Alonazi M. Effective Soybean Oil Degumming by Immobilized Phospholipases A2 from *Walterinnesia aegyptia* Venom. *ACS Omega*. 2024 May 1;9(19):21322-21332.
 22. Jemel I, Krayem N, **Ben Bacha A**, Alonazi M, Horchani H, Ghamgui H. Novel Stable Protease Inhibitor from *Phoenix dactylifera(L.)* Flowers with Antimicrobial and Antitumoral Activities. *ACS Omega*. 2024 Mar 7;9(11):13332-13341.
 23. Hussein S, **Ben Bacha A**, Alonazi M, Alwaili MA, Mobasher MA, Alburae NA, Banjabi AA, El-Said KS. *Urtica pilulifera* leaves extract mitigates cadmium induced hepatotoxicity

- via modulation of antioxidants, inflammatory markers and Nrf-2 signaling in mice. *Front Mol Biosci.* 2024 Feb 26;11:1365440. doi: 10.3389/fmolb.2024.1365440.
24. A El-Ansary, **A Ben Bacha**, SA Hassan. Phospholipase C and glutamate excitotoxicity as etiological mechanism in neurological disorders. *Phospholipases in Physiology and Pathology*, 119-133; 2023.
 25. Krayem N, Alonazi M, Khemakhem B, Horchani H, Cherif S, Karray A, **Ben Bacha A**. Biochemical and Functional Characterization by Site-Directed Mutagenesis of a Phospholipase A2 from *Scorpio maurus* Venom. *Processes.* 2023 Dec 4;11(12):3364.
 26. Alonazi M, Krayem N, Alzahrani AA, Horchani H, **Ben Bacha A**. Novel Phospholipase C with High Catalytic Activity from a *Bacillus stearothermophilus* Strain: An Ideal Choice for the Oil Degumming Process. *Processes.* 2023 Nov 28 ;11(12):3310.
 27. Aldawood N, Almस्ताفا S, Alwasel S, Aldahmash W, **Ben Bacha A**, Alamri A, Alanazi M, Harrath AH. Involvement of Autophagy and Oxidative Stress-Mediated DNA Hypomethylation in Transgenerational Nephrotoxicity Induced in Rats by the Mycotoxin Fumonisin B1. *Toxins (Basel).* 2023 Nov 17;15(11):663. doi: 10.3390/toxins15110663.
 28. El-Sayed N.N.E; Al-Otaibi T.M.; Barakat A.; Almarhoon Z.M.; Hassan M. Z.; M.I. Al-Zaben; Krayem N.; Masand V.H.; **Ben Bacha A**. Synthesis and Biological Evaluation of Some New 3-Aryl-2-thioxo-2,3-dihydroquinazolin-4(1H)-ones and 3- Aryl-2-(benzylthio)quinazolin-4(3H)-ones as Antioxidants, COX-2, LDHA, α -Glucosidase and α -Amylase Inhibitors, as well as Anti-colon Carcinoma and Apoptosis. *Pharmaceuticals* 2023, 16, 1392.
 29. Alonazi, M.; Krayem, N.; Alharbi, M.G.; Khayyat, A.I.A.; Alanazi, H.; Horchani, H.; **Ben Bacha, A**. Functional Characterization and Anti-Tumor Effect of a Novel Group II Secreted Phospholipase A2 from Snake Venom of Saudi *Cerastes cerastes gasperetti*. *Molecules* 2023, 28, 6517.
 30. Alonazi M, Al-Diahan SK, Alzahrani ZRA, **Ben Bacha A**. Combined immobilized lipases for effective biodiesel production from spent coffee grounds. *Saudi J Biol Sci.* 2023 Sep;30(9):103772.
 31. Kamalmaz N, **Ben Bacha A**, Alonazi M, Albasher G, Khayyat AIA, El-Ansary A. Unveiling sex-based differences in developing propionic acid-induced features in mice as a rodent model of ASD. *PeerJ.* 2023 Jun 13;11:e15488.
 32. Alonazi M, **Ben Bacha A**, Alharbi MG, Khayyat AIA, Al-Ayadhi L, El-Ansary A. Bee Pollen and Probiotics' Potential to Protect and Treat Intestinal Permeability in Propionic Acid-Induced Rodent Model of Autism. *Metabolites.* 2023 Apr 12;13(4):548.
 33. Nafaa M, Rizk SM, Aly TA-GA, Rashed MA-S, Abd El-Moneim D, **Ben Bacha A**, Alonazi M, Magdy M. Screening and Identification of the Rhizosphere Fungal Communities Associated with Land Reclamation in Egypt. *Agriculture.* 2023; 13(1):215.
 34. Alsubaiei SRM, Alfawaz HA, Almubarak AY, Alabdali NA, **Ben Bacha A**, El-Ansary A. Independent and Combined Effects of Probiotics and Prebiotics as Supplements or Food-Rich Diets on a Propionic-Acid-Induced Rodent Model of Autism Spectrum Disorder. *Metabolites.* 2022 Dec 29;13(1):50.
 35. **Ben Bacha, A.**; Alonazi, M.; Alharbi, M.G.; Horchani, H.; Ben Abdelmalek, I. Biodiesel Production by Single and Mixed Immobilized Lipases Using Waste Cooking Oil. *Molecules* 2022, 27, 8736. ht
 36. Moutaouakil, M.; Tighadouini, S.; M. Almarhoon, Z.; I. Al-Zaben, M.; **Ben Bacha, A.**; H. Masand, V.; Jamaledine, J.; Saddik, R. Quinoline Derivatives with Different Functional Groups: Evaluation of Their Catecholase Activity. *Catalysts* 2022, 12, 1468.
 37. **Ben Bacha, A.**, Alonazi, M., Alanazi, H., Alharbi, M. G., Jallouli, R., & Karray, A. (2022). Biochemical Study of *Bacillus stearothermophilus* Immobilized Lipase for Oily Wastewater Treatment. *Processes*, 10(11), 2220.
 38. Alonazi M, **Ben Bacha A**, Al Suhaibani A, Almnaizel AT, Aloudah HS, El-Ansary A. Psychobiotics improve propionic acid-induced neuroinflammation in juvenile rats, rodent model of autism. *Transl Neurosci.* 2022 Sep 8;13(1):292-300.
 39. Saddik R, Hammoudan I, Tighadouini S, Roby O, Radi S, Al-Zaben MI, **Ben Bacha A**, Masand VH, Almarhoon ZM. Mesoporous Silica Modified with 2-Phenylimidazo[1,2-a]

- pyridine-3-carbaldehyde as an Effective Adsorbent for Cu(II) from Aqueous Solutions: A Combined Experimental and Theoretical Study. *Molecules*. 2022 Aug 13;27(16):5168.
40. El-Sayed NNE, Zaki MEA, Al-Hussain SA, **Ben Bacha A**, Berredjem M, Masand VH, Almarhoon ZM, Omar HS. Synthesis and Evaluation of Some New 4H-Pyran Derivatives as Antioxidant, Antibacterial and Anti-HCT-116 Cells of CRC, with Molecular Docking, Antiproliferative, Apoptotic and ADME Investigations. *Pharmaceuticals (Basel)*. 2022 Jul 19;15(7):891.
 41. Al-Nemari, R., **Ben Bacha, A.**, Al-Senaïdy, A., Almutairi, M.H., Arafah, M., Al-Saran, H., Abutaha, N., & Semlali, A. Cytotoxic effects of *Annona squamosa* leaves against breast cancer cells via apoptotic signaling proteins. *Journal of King Saud University - Science*. 2022 Jun; 34 (4): 102013
 42. Karray A, Alonazi M, Jallouli R, Alanazi H, **Ben Bacha A**. A Proteinaceous Alpha-Amylase Inhibitor from *Moringa Oleifera* Leaf Extract: Purification, Characterization, and Insecticide Effects against *C. maculatus* Insect Larvae. *Molecules*. 2022 Jun 30;27(13):4222.
 43. El-Sayed NNE, Almaneai NM, **Ben Bacha A**, El-Ashrey MK, Al-Zaben MI, Almarhoon ZM. Biological Evaluation, Molecular Docking Analyses, and ADME Profiling of Certain New Quinazolinones as Anti-colorectal Agents. *ACS Omega*. 2022 May 23;7(22):18443-18458.
 44. Alonazi M, Karray A, Jallouli R, **Ben Bacha A**. Biochemical, Kinetic and Biological Properties of Group V Phospholipase A2 from Dromedary. *Molecules*. 2022 May 26;27(11):3437.
 45. Malhi DS, Sohal HS, Singh K, Almarhoon ZM, **Ben Bacha A**, Al-Zaben MI. Highly Efficient Electrocarboxylation Method to Synthesize Novel Acid Derivatives of 1,4-Dihydropyridines and to Study Their Antimicrobial Activity. *ACS Omega*. 2022 Apr 28;7(18):16055-16062.
 46. Almarhoon, Z, Al-Zaben, M, **Ben Bacha A**, Haukka, M, El-Faham, A & Soliman, S. (2021). Synthesis, X-ray Structure, Conformational Analysis, and DFT Studies of a Giant s-Triazine bis-Schiff Base. *Crystals*. 11. 1418. 10.3390/cryst11111418.
 47. Kamal S, Derbala HA, Alterary SS, **Ben Bacha A**, Alonazi M, El-Ashrey MK, Eid El-Sayed NN. Synthesis, Biological, and Molecular Docking Studies on 4,5,6,7-Tetrahydrobenzo[b]thiophene Derivatives and Their Nanoparticles Targeting Colorectal Cancer. *ACS Omega*. 2021 Oct 25;6(43):28992-29008.
 48. **Ben Bacha A**, Al-Orf N, Alonazi M, Bhat RS, El-Ansary A. The anti-inflammatory and antiapoptotic effects of probiotic on induced neurotoxicity in juvenile hamsters. *Food Sci Nutr*. 2021 Jul 13;9(9):4874-4882.
 49. Al Suhaibani A, **Ben Bacha A**, Alonazi M, Shafi Bhat R.S, El-Ansary Afaf, Testing the combined effects of probiotics and prebiotics against neurotoxic effects of propionic acid orally administered to rat pups. *Food Sci Nutr*. 2021;00:1–12.
 50. El-Sayed NNE, Al-Otaibi TM, Alonazi M, Masand VH, Barakat A, Almarhoon ZM, **Ben Bacha A**. Synthesis and Characterization of Some New Quinoxalin-2(1H)one and 2-Methyl-3H-quinazolin-4-one Derivatives Targeting the Onset and Progression of CRC with SRA, Molecular Docking, and ADMET Analyses. *Molecules*. 2021 May 23;26(11):3121.
 51. Alonazi, M.; Karray, A.; Badjah-Hadj-Ahmed, A.Y.; **Ben Bacha, A.** Al-pha Amylase from *Bacillus pacificus* Associated with Brown Algae *Turbina-ria ornata*: Cultural Conditions, Purification, and Biochemical Character-ization. *Processes* 2021, 9, 16.
 52. Karray A, Alonazi M, Horchani H, **Ben Bacha A**. A Novel Thermostable and Alkaline Protease Produced from *Bacillus stearothermophilus* Isolated from Olive Oil Mill Sols Suitable to Industrial Biotechnology. *Molecules*. 2021 Feb 20;26(4):1139.
 53. Alonazi MA, Jemel I, Moubayed N, Alwhibi M, El-Sayed NNE, **Ben Bacha A**. Evaluation of the in vitro anti-inflammatory and cytotoxic potential of ethanolic and aqueous extracts of *Origanum syriacum* and *Salvia lanigera* leaves. *Environ Sci Pollut Res Int*. 2021 Apr; 28(16):19890-19900.

54. Alonazi M, Horchani H, Alwhibi M, **Ben Bacha A**. Cytotoxic, Antioxidant, and Metabolic Enzyme Inhibitory Activities of *Euphorbia cyparissias* Extracts. *Oxid Med Cell Longev*. 2020 Oct 29;2020:9835167.
55. Abid, I.; Jemel, I.; Alonazi, M.; **Ben Bacha, A**. A New Group II Phospholipase A2 from *Walterinnesia aegyptia* Venom with Antimicrobial, Antifungal, and Cytotoxic Potential. *Processes* 2020, 8, 1560.
56. El-Ansary A, Hassan WM, Daghestani M, Al-Ayadhi L, **Ben Bacha A**. Preliminary evaluation of a novel nine-biomarker profile for the prediction of autism spectrum disorder. *PLoS One*. 2020 Jan 16;15(1):e0227626.
57. **Ben Bacha A**, Norah AO, Al-Osaimi M, Harrath AH, Mansour L, El-Ansary A. The therapeutic and protective effects of bee pollen against prenatal methylmercury induced neurotoxicity in rat pups. *Metab Brain Dis*. 2020 Jan;35(1):215-224.
58. Al-Nemari R, Al-Senaidy A, Semlali A, Ismael M, Badjah-Hadj-Ahmed AY, **Ben Bacha A**. GC-MS profiling and assessment of antioxidant, antibacterial, and anticancer properties of extracts of *Annona squamosa* L. leaves. *BMC Complement Med Ther*. 2020 Oct 6;20(1):296.
59. Karray A, Alonazi M, Smaoui S, Michaud P, Soliman D, **Ben Bacha A**. Purification and Biochemical Characterization of a New Protease Inhibitor from *Conyza dioscoridis* with Antimicrobial, Antifungal and Cytotoxic Effects. *Molecules*. 2020 Nov 20;25(22):5452.
60. Abid, I.; Jemel, I.; Alonazi, M.; Ben Bacha, A. A New Group II Phospholipase A2 from *Walterinnesia aegyptia* Venom with Antimicrobial, Antifungal, and Cytotoxic Potential. *Processes* 2020, 8, 1560.
61. El-Ansary A, Hassan WM, Daghestani M, Al-Ayadhi L, **Ben Bacha A**. Preliminary evaluation of a novel nine-biomarker profile for the prediction of autism spectrum disorder. *PLoS One*. 2020 Jan 16;15(1):e0227626. doi: 10.1371/journal.pone.0227626. PMID: 31945130; PMCID: PMC6964874.
62. **Ben Bacha A**, Norah AO, Al-Osaimi M, Harrath AH, Mansour L, El-Ansary A. The therapeutic and protective effects of bee pollen against prenatal methylmercury induced neurotoxicity in rat pups. *Metab Brain Dis*. 2020 Jan;35(1):215-224. doi: 10.1007/s11011-019-00496-z. Epub 2019 Oct 17. PMID: 31625070.
63. Al-Nemari R, Al-Senaidy A, Semlali A, Ismael M, Badjah-Hadj-Ahmed AY, **Ben Bacha A**. GC-MS profiling and assessment of antioxidant, antibacterial, and anticancer properties of extracts of *Annona squamosa* L. leaves. *BMC Complement Med Ther*. 2020 Oct 6;20(1):296. doi: 10.1186/s12906-020-03029-9. PMID: 33023568; PMCID: PMC7541211.
64. Bhat RS, El Gezeery A, **Ben Bacha A**, Alonazi MA, Alsuhaibani LS, and El-Ansary A. Prenatal exposure to the fluoride containing psychiatric drug fluoxetine and anti-oxidative alterations in the neonatal rat brain. *BIOCELL* 2019, 43(2): 65-71.
65. Al-Nuwaysir H, Moubayed N, Al-Othman M, **Ben Bacha A**, and Abid I. Molecular detection of *Escherichia coli* in Wadi Hanifa, Saudi Arabia. *Biomedical Research* (2019) Volume 30, Issue 2.
66. Nahed N. E. El-Sayed, Norah M. Almaneai, Saied M. Soliman, **Abir Ben Bacha** and Hazem A. Ghabbour. Synthesis, Structural Investigation, Antiphospholipases, Antiproteases and antimicrobial activities of 2-(4-hydroxy-3-methoxy-benzylidene)-6-methoxy-3,4-dihydro-2H-naphthalen-1-one and 4-(4-hydroxy-3-methoxy-phenyl)-8-methoxy-3,4,5,6-tetrahydro-1H-benzo[h] quinazoline-2-thione. *Journal of the Chemical Society of Pakistan*. 2019 Dec; 41 (06).
67. El-Sayed NNE, Almaneai NM, **Ben Bacha A**, Al-Obeed O, Ahmad R, Abdulla M, Alafeefy AM. Synthesis and evaluation of anticancer, antiphospholipases, antiproteases, and antimetabolic syndrome activities of some 3H-quinazolin-4-one derivatives. *J Enzyme Inhib Med Chem*. 2019 Dec; 34(1):672-683. doi: 10.1080/14756366.2019.1574780.
68. El-Ansary, N. Zayed, M.H. Daghestani1, **A. Ben Bacha**. Metabolic and Immune Aspects of Sex Differences in Autism. *Recent Advances in Autism Chapter 2*. 2019

69. **Ben Bacha A**, Jemel I, Shafi Bhat R, and Alonazi MA. Inhibitory effects of various solvent extracts from *R. frangula* leaves on some inflammatory and metabolic enzymes. *Cell Mol Biol (Noisy-le-grand)*. 2018 Oct 30; 64 (13):55-62.
70. Al-Orf N, El-Ansary A, Bjørklund G, Moubayed N, Bhat RS, **Ben Bacha A**. Therapeutic effects of probiotics on neurotoxicity induced by clindamycin and propionic acid in juvenile hamsters. *Metab Brain Dis*. 2018 Dec; 33 (6):1811-1820.
71. Al-Osaimi M, El-Ansary A, Al-Daihan S, Bhat RS, **Ben Bacha A**. Therapeutic and Protective Potency of Bee Pollen Against Neurotoxic Effects Induced by Prenatal Exposure of Rats to Methyl Mercury. *J Mol Neurosci*. 2018 Jul;65(3):327-335. doi: 10.1007/s12031-018-1107-1.
72. El-Ansary A, Bjørklund G, Khemakhem AM, Al-Ayadhi L, Chirumbolo S, **Ben Bacha A**. Metabolism-Associated Markers and Childhood Autism Rating Scales (CARS) as a Measure of Autism Severity. *J Mol Neurosci*. 2018 Jul;65(3):265-276. doi: 10.1007/s12031-018-1091-5. Epub 2018 Jun 22.
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Papers and Presentations at Conferences and Seminars:

1. Alabdali A.N, **Ben Bacha A**, Alonazi M, Al-Ayadhi L, El-Ansary A. Comparative clinical and experimental study on novel biomarkers related to the effectiveness of GABA supplementation as intervention strategy in autism. 7th International research and practice conference autism: challenges and solutions. April 27-30, 2024 Abu Dhabi, UAE.
2. Krayem N, Alonazi A, **Ben Bacha A**. Novel Phospholipase C with High Catalytic Activity from a *Bacillus stearothermophilus* Strain: An Ideal Choice for the Oil Degumming Process. 33th annual forum of biological sciences and biotechnology organized by the Tunisian association of biological sciences. 21-24 June 2024, Sousse - Tunisia.
3. Mona Alonazi and **Abir Ben Bacha**. Combined immobilized lipases for effective biodiesel production from spent coffee grounds. The first international forum and exhibition for sustainable agriculture organized by the national research and development center for sustainable agriculture. 20-22 November 2023, Riyadh-KSA.
4. **Abir Ben Bacha**, Norah Alorf, Afaf Elansary. Therapeutic effect of probiotic on clindamycin and propionic acid, a short chain fatty acid- induced neurotoxicity in juvenile hamsters. 30th annual forum of biological sciences and biotechnology organized by the Tunisian association of biological sciences. 25-28 March 2019, Sousse - Tunisia.
5. **Abir Ben Bacha**, A novel bactericidal homodimeric PLA2 group-I from *Walterinnesia aegyptia* venom. 7th International Congress of Biotechnology and Valorization of Bio-resources organized by The Tunisian Association of Biotechnology and Valorization of Bio-Resources (AT-BVBR). 20-23 March 2019, Tabarka – Tunisia.
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7. Rawan Al-Nemari, **Abir Ben Bacha**, Abdulrahman Al-Senaidy, Abdelhabib Semlali. In vitro and vivo Studies for Assessing the Anti-Proliferative, Anti-Migration and Apoptotic Activity of *A. squamosa* L. Leaves Extract. ICCSCMG 2018: 20th International Conference on Cancer Stem Cells and Metastatic Growth. DUBAI, UAE JANUARY 22-23, 2018.
8. **Abir Ben Bacha** and Ikram Jemel. Inhibitory effects of various solvent extracts from *R. frangula* leaves on some inflammatory and metabolic enzymes (Oral communication). International Conference on Bioanalyses: Food and Health. Mahdia-Tunisia, December 4, 2017.
9. **Abir Ben Bacha** and Ikram Jemel. Purification and characterization of a newly serine protease inhibitor from *Rhamnus frangula* with potential for use as therapeutic drug (Poster communication). International Conference on Bioanalyses: Food and Health. Mahdia-Tunisia, December 4, 2017.
10. Asma M. Khemakhem, Afaf El-Ansary, Richard Eugene Fryeg, Laila Al-Ayadhi, **Abir Ben Bacha**. Relative levels of, potassium, sodium, lactate, pyruvate, and lactate dehydrogenase as biomarkers in plasma of Saudi autistic patients compared to control (Oral communication). 28th annual forum of biological sciences and biotechnology organized by the Tunisian association of biological sciences. 21-24 March 2017, Hammamet - Tunisia.
11. Asma M. Khemakhem, Afaf El-Ansary, Richard Eugene Fryeg, Laila Al-Ayadhi, **Abir Ben Bacha**. Screening of selected biomarkers related to mitochondrial dysfunction and associated with the severity of autism measured by Childhood Autism Rating Scale

- (CARS) (Oral communication). The third edition of the international conference of Engineering Sciences for Biology and Medicine (ESBM) organized by Tunisian Society of Academic Research (ATCU). 04-07 May, Sfax-Tunisia
12. Asma M. Khemakhem, Afaf El-Ansary, Richard Eugene Fryeg, Laila Al-Ayadhi, **Abir Ben Bacha**. Relative levels of selected biomarkers related to oxidative stress, apoptosis, and mitochondrial dysfunction as biomarkers in plasma of Saudi autistic patients compared to control (Poster). Vth International Congress of Biotechnology and Valorization of Bio-resources organized by The Tunisian Association of Biotechnology and Valorization of Bio-Resources (AT-BVBR). 25 March 2017, Tabarka – Tunisia.
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 16. El-Ansary A.K., **Ben Bacha A.**, Al-Ayadhi L.Y. Relationship between chronic lead toxicity and plasma neurotransmitters in autistic patients from Saudi Arabia. *Ninth World Congress on Brain Injury*, Edinburgh, Scotland March 21-25, 2012.
 17. **Ben Bacha A.**, Mejdoub H. Purification and biochemical characterization of pancreatic phospholipase A₂ from the common stingray *Dasyatis pastinaca*. *International Symposium of Biotechnology*, Sousse-Tunisia, 19-22 December 2011.
 18. Al-Ayadhi L.Y., **Ben Bacha A.**, Kotb M., El-Ansary A.K. A novel study on amyloid beta peptide 40, 42 and 40/42 ratio in Saudi autistics. *16th International Conference of the APPAC*. Greece May 17-20, 2011.
 19. Zarai Z., **Ben Bacha A.**, Gargouri Y., Mejdoub H. A novel marine hepatopancreatic phospholipase A₂: Purification and characterization. *3rd Mediterranean Congress of Biotechnology*, Hammamet-Tunisia, 15-18 December 2008.
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 21. **Ben Bacha A.**, Gargouri Y., Mejdoub H., Miled N. Proteolytic cleavage of ostrich and turkey pancreatic lipases: production of an active N-terminal domain. *1st International Symposium on Biotechnology*. Sfax-Tunisia, 4-8 May 2008.
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 25. **Ben Bacha A.**, Djemel I, Gargouri Y., Mejdoub H. Purification and biochemical characterization of dromedary pancreatic colipase. *1st Mediterranean Congress of Biotechnology*, Hammamet-Tunisia, 25-29 March 2006.
 26. **Ben Bacha A.**, Gargouri Y., Bezzine S., Mejdoub H. Purification et caractérisation biochimique de la phospholipase A₂ pancréatique de dromadaire. *17ème journées de*

l'Association Tunisienne des Sciences Biologiques, et 1er Congrès Maghrébin de Biologie et de Biotechnologie. Hammamet-Tunisie, 20-23 Mars 2006.

- 27. Ben Bacha A.,** Gargouri Y., Mejdoub H. Purification et caractérisation biochimique de la lipase pancréatique d'autruche. *16ème journée de l'Association Tunisienne des Sciences Biologiques, Hammamet-Tunisie, 19-23 Mars 2005.*

Workshops

1. "Influence and persuasion skills" (King Saud University - Saudi Arabia, Riyadh - October 2021).
2. "Creative teaching skills" (King Saud University - Saudi Arabia, Riyadh - October 2020).
3. "Classroom management" (King Saud University - Saudi Arabia, Riyadh - May 2013).
4. "Effective Teaching" (King Saud University - Saudi Arabia, Riyadh - May 2011).
5. "Active Learning in Large Classes" (King Saud University - Saudi Arabia, Riyadh - September 2010).
6. "Academic Guidance for Students" (King Saud University - Saudi Arabia, Riyadh - September 2010).
7. "Effective Teaching Skills" (King Saud University - Saudi Arabia, Riyadh - September 2010).