Bilal A Azakir

Associate Professor of Medical Biochemistry

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Academic Profile

Medical biochemist and academic leader with expertise in molecular and cellular biology, autophagy and apoptosis, cancer biology, neuromuscular disease, epidemiology, biostatistics, and research ethics. Leads and supports translational and clinical research, medical-student research training, postgraduate supervision, curriculum development, institutional research governance, and regional bioethics initiatives. Experienced in international collaboration, peer review, conference organization, and public engagement.

Personal Information

Date of birth	Nationality	Languages
7 July 1981	Lebanese	Arabic (native); English and French (excellent); German (basic)

Academic Appointments

Period	Appointment	Institution
2021-present	Associate Professor of Medical Biochemistry	Faculty of Medicine, Beirut Arab University, Beirut, Lebanon
2014-2021	Assistant Professor of Medical Biochemistry	Faculty of Medicine, Beirut Arab University, Beirut, Lebanon
2009-2014	Senior Researcher, Neuromuscular Research Centre	University Hospital Basel, Switzerland
2008-2009	Postdoctoral Fellow, Montreal Neurological Institute	McGill University, Montreal, Canada

Leadership and Administrative Roles

- Head, Molecular and Translational Medicine Laboratory, Faculty of Medicine, Beirut Arab University.
- Director, Research Program (PROMISE), Faculty of Medicine, Beirut Arab University.
- Former Head, Department of Basic Medical Sciences, Faculty of Medicine, Beirut Arab University (2022-2024).
- Head/leadership role in the Faculty Research Committee and continuous university research-committee service (2021-2026).
- University representative on the Scientific Research Committee of the Association of Universities of Lebanon (UAOLB), 2024-present.
- Supported the Dean’s Office during the COVID-19 period to sustain academic and research continuity and contributed to successful Faculty accreditation.

Education

Year	Qualification	Institution and focus
2008	PhD in Biological Sciences	University of Montreal, Canada. Thesis: Identification and role of the ubiquitin ligase Itch/AIP4 in cell growth and apoptosis.
2004	DEA in Biochemistry	Claude Bernard University Lyon 1, France. Molecular mechanisms involved in radioresistance of leukemic cells expressing Bcl-2.
2003	Master 1 in Biochemistry	Lebanese University, Faculty of Science, Fanar Campus, Lebanon.
2002	Bachelor of Science in Biochemistry	Lebanese University, Faculty of Science, Fanar Campus, Lebanon.
1999	Lebanese Baccalaureate in Sciences	Lebanon.

Research Expertise

- Autophagy-apoptosis crosstalk, hypoxia signaling, tumor-cell plasticity, cancer stemness, and treatment resistance.
- Waterpipe and cigarette smoke biology, inflammation, DNA damage, metabolomics, and early lung carcinogenesis.
- Dysferlin biology, membrane repair, proteostasis, ubiquitin signaling, and neuromuscular disorders.
- Natural products, polyphenol extraction, antioxidant and anticancer activity, and nutraceutical development.
- Clinical epidemiology, biostatistics, questionnaire studies, medical education research, and public health.
- Research ethics, bioethics, scientific integrity, IRB governance, and ethics of artificial intelligence.

Research Grants Fellowships and Scholarships

- Thumbay International Research Grant, Principal Investigator: Comparative study on the effects of waterpipe and cigarette smoking: metabolomics and tumorigenic effects.
- Beirut Arab University Intramural Fund, Co-Principal Investigator: Therapeutic potential of leontopodic acid in colorectal cancer cell lines and synergy with mainstream chemotherapeutics.
- CNRS-BAU Joint Grant, 2018.
- UNESCO consultancy funding for development of a Regional Roadmap to Promote the Right to Science in the Arab Region, 2023.
- Full scholarship, Middle East Research Ethics Training Initiative (MERETI), University of Maryland, 2017.
- Gebert Rüf Stiftung, Basel, Co-Principal Investigator, April 2012-August 2014.
- Nachwuchs-Förderungs-Stipendium, University of Basel, April 2010-April 2011.
- Centre of Excellence in Commercialization and Research Fellowship, McGill University, 2008-2009.
- Quebec Merit Scholarship for Foreign Students (PBEEE), University of Montreal, 2005-2008.
- Fonds de bourses en sciences biologiques fellowship, University of Montreal, 2006.
- Federation of European Biochemical Societies travel fellowship, 2007.

Research Awards and Recognition

Year	Award	Context
2026	Best Oral Presentation Award	Chain of Education Annual Healthcare Conference; supervised student research on prediabetes.
2026	Best Research/Poster Presentation Award	Third National Research Day; award achieved with supervised students.
2025	Most Active Researcher	Beirut Arab University, Deanship of Graduate Studies and Research; academic year 2023-2024.

Peer Reviewed Publications

1. Naous A, Naja Z, El Husseini N, et al., Azakir B. The perceptions and concerns of parents about vaccination of their children against COVID-19: a cross-sectional study. Scientific Reports. 2026. doi:10.1038/s41598-026-64804-1.
2. Abou Dib Y, Hammoud R, Al Smaily S, Abdul Samad T, Mina N, Bou Dargham A, Abou Saleh A, Azakir B. Knowledge and Attitude of Lebanese Women Regarding Induced Abortion: A Cross-Sectional Study. Health Science Reports. 2026;9:e73027. doi:10.1002/hsr2.73027.
3. Youssef R, Dassuki N, El Natour D, et al., Azakir B, El Masri J, Salameh P. Effect of noise and green space exposure on depression, anxiety and stress among the Lebanese population. PLOS ONE. 2026;21(3):e0344534. doi:10.1371/journal.pone.0344534.
4. Othman MM, Azakir B, Khazaal S, Rabie M, Salem Sokhn E, Maroun RG, Debs E, Louka N, El Darra N. Optimized extraction of polyphenols from rooibos tea (Aspalathus linearis) and their biological activities. Frontiers in Nutrition. 2026;13:1778749. doi:10.3389/fnut.2026.1778749.
5. Rabie M, Khazaal S, Othman MM, Salem Sokhn E, Debs E, Sunoqrot S, Azakir B, Louka N, El Darra N. Valorization of Onion By-Products and Assessment of Their Biological Activities. Foods. 2026;15:637. doi:10.3390/foods15040637.
6. Chouman A, Aboul Ela M, Bouhadir K, Azakir B, El-Lakany A, Hijazi MAM. Anticancer Potential and Phytochemical Constituents of Ononis natrix Grown in Lebanon. Journal of Applied Pharmaceutical Science. 2026. doi:10.1177/22313354261461009.
7. Hind J, Bilal A, Rania I, Walid N, Sara M. Assessment of Helicobacter pylori infection in Lebanon: Endoscopic and histopathological findings. Journal of Infection and Public Health. 2025;18:102656. doi:10.1016/j.jiph.2025.102656.
8. El Nouiri A, El Kassem S, Al Maaz Z, et al., Azakir B. Prevalence and Characteristics of Medical Student Mistreatment in Lebanon. International Journal of Public Health. 2024;69:1606710. doi:10.3389/ijph.2024.1606710.
9. Swaidan A, Azakir B, Neugart S, Kattour N, Salem Sokhn E, Osaili TM, El Darra N. Evaluation of the Phenolic Composition and Biological Activities of Six Aqueous Date Seed Extracts Originating from Different Countries: A Comparative Analysis. Foods. 2024;13:126. doi:10.3390/foods13010126.
10. Shkeir B, El Darra N, Azakir B, Khazaal S, Salem Sokhn E, Koubaa M, Maroun RG, Louka N, Debs E. Optimized Extraction of Polyphenols from Kiwifruit Peels and Their Biological Activities. BioTech. 2024;13:54. doi:10.3390/biotech13040054.
11. El Tannir H, Houhou D, Debs E, Koubaa M, Jammoul A, Azakir B, Khalil MI, El Darra N, Louka N. Optimization of Aqueous Extraction of Polyphenols from Cuminum cyminum Seeds Using Response Surface Methodology and Assessment of Biological Activity. BioTech. 2024;13:7. doi:10.3390/biotech13010007.

12. Mina S, Azakir B. Healthcare workers perceptions regarding antibiotic use during COVID-19 pandemic in Lebanon: a cross-sectional study. BAU Journal - Health and Wellbeing. 2022;4(2):Article 10. doi:10.54729/YDEL5984.
13. Zaarour RF, Sharda M, Azakir B, et al. Genomic Analysis of Waterpipe Smoke-Induced Lung Tumor Autophagy and Plasticity. International Journal of Molecular Sciences. 2022;23:6848. doi:10.3390/ijms23126848.
14. Abou Khouzam R, Zaarour RF, Brodaczewska K, Azakir B, et al. The Effect of Hypoxia and Hypoxia-Associated Pathways in the Regulation of Antitumor Response: Friends or Foes? Frontiers in Immunology. 2022;13:828875. doi:10.3389/fimmu.2022.828875.
15. Zaarour RF, Azakir B, Hajam EY, et al. Role of Hypoxia-Mediated Autophagy in Tumor Cell Death and Survival. Cancers. 2021;13:533.
16. Abou Dargham N, Sultan Y, Mourad O, Baidoun M, Aboul Hosn O, Abou El Naga A, Bahmad HF, Azakir B. Perception of Biostatistics by Lebanese Medical Students: A Cross-Sectional Study. Alexandria Journal of Medicine. 2021;57:103-109.
17. Azakir B, Mobarak H, Al Najjar S, et al. Knowledge and attitudes of physicians toward research ethics and scientific misconduct in Lebanon. BMC Medical Ethics. 2020;21:39. doi:10.1186/s12910-020-00475-5.
18. Alwan I, Annous N, Diab T, Barak M, Bizri R, Houri M, Azakir B. Factors Affecting Patient Compliance to Physician Advice among Lebanese Internet Users. Journal of Clinical and Diagnostic Research. 2020;14(6).
19. Bahmad HF, Saleh E, Abou-El-Naga A, Azakir B. Estimation of Stature from Hand Anthropometric Measurements in the Adult Lebanese Population. Journal of Forensic Identification. 2020;70(1):125.
20. Hammoud R, Saleh S, Halawani D, Mezher H, Abou El Naga A, Azakir B. Knowledge and attitudes of Lebanese women of childbearing age towards emergency contraception. European Journal of Contraception and Reproductive Health Care. 2020;25(1):28-32.
21. Azakir B, Safar A, Abou Daher G, Abou El Naga A. Dietary supplements consumption among sportsmen in Lebanon. BAU Journal. 2018.
22. Azakir BA, Di Fulvio S, Therrien C, Sinnreich M. Dysferlin interacts with tubulin and microtubules in mouse skeletal muscle. PLOS ONE. 2010;5(4).
23. Azakir BA, Desrochers G, Angers A. The ubiquitin ligase Itch mediates the antiapoptotic activity of epidermal growth factor by promoting tBid ubiquitylation and degradation. FEBS Journal. 2010;277:1319-1330.
24. Azakir BA, Angers A. Reciprocal regulation of the ubiquitin ligase Itch and epidermal growth factor receptor signaling. Cellular Signalling. 2009;21(8):1326-1336.
25. Mouchantaf R, Azakir BA, McPherson PS, Millard SM, Wood SA, Angers A. The ubiquitin ligase Itch is auto-ubiquitylated in vivo and in vitro but is protected from degradation by interacting with the deubiquitylating enzyme FAM/USP9X. Journal of Biological Chemistry. 2006;281(50):38738-38747.

Accepted Manuscript

- Zaarour RF, Azakir B, Mahmood AS, Nizami ZN, Nawafleh H, Elsayed Y, Chouaib S. Waterpipe smoke condensate activates autophagy in non-tumorigenic lung epithelial cells: implications for inflammation and stemness. PLOS ONE. Editorially accepted / in technical processing, 2026. Manuscript PONE-D-25-66053R1.

Book Chapter

- Al Kassar M, Azakir B. Research ethics governance in the Arabic region: Lebanon. In: Silverman H, ed. Research Ethics in the Arab Region. Research Ethics Forum, vol. 5. Springer; 2017.

Manuscripts Under Review or Submitted

- Assessment of Parental Knowledge towards Developmental Dysplasia of the Hip among Children in Lebanon: A Cross-Sectional Study. BMC Pediatrics; second review.
- Histopathological Spectrum in FIT-Positive Patients with Abnormal Colonoscopy Findings at a Tertiary Medical Center in Lebanon. Health Science Reports; second review.
- Knowledge and Attitude of Parents in Lebanon towards Umbilical Cord Blood Stem Cell Banking. Submitted.
- Knowledge and Attitude of Parents in Lebanon towards Picky Eating among Children. Submitted.
- Flexible Family Visitation as a Family-Centered Strategy for Delirium Prevention in Intensive Care Units: A Pilot Randomized Controlled Trial. Submitted.
- Anticancer and cisplatin-modulating effect of Cedrus libani A. Rich essential oil on H460 and HT-29 cells. Submitted.

Teaching Curriculum Development and Research Training

- Course coordinator, FABL201 Life Cycle, 2014-2025; preparation and maintenance of complete course files.
- Course coordinator, REPG306 Research Project, 2014-present; research-methodology, ethics, analysis, writing, journal selection, submission, and publication training.
- Co-coordinator, Multisystem I, 2025-2026.
- Contributed to medical biochemistry, genetics, research methodology, and research ethics curriculum design and benchmarking, including updates aligned with international medical-education standards.
- Uses team-based learning, small-group discussion, case-based learning, problem solving, experiential exercises, authentic research cases, and student reflection.
- Maintains scheduled office hours and an open-door approach for academic and research mentoring.
- Organized research-methodology and publication workshops for medical students and residents, including manuscript preparation, journal selection, and publication-fee considerations.
- Teaching assistant in molecular biology, cell biology, and genetics at the University of Montreal.

Postgraduate Supervision and Research Mentoring

- Hajar Kaarali, postdoctoral fellow, Beirut Arab University.
- Mariam Ayyash, master’s thesis, Faculty of Science, Beirut Arab University.
- Supervision and/or examining activities for postgraduate students in biochemistry, biology, pharmacy, and health sciences at Beirut Arab University, 2017-2026.
- PhD registration/committee roles: Hicham Anton Younes (Biochemistry, 2023) and Maya Nahi Abou Chahla (Biology, 2025).
- PhD examining committee: Alaa Mohammad Maan Matar (Biochemistry, 2020).
- University of Basel: Sabrina Di Fulvio and Marielle Brockhoff, PhD research mentoring.
- University of Montreal: Guillaume Desrochers, master’s research; Anne Jacquet, Hery Ratsima, Charles-Étienne Lebert-Ghali, Milagros Gonzales, Thanh Tien Tran, and Yuliya Skorokhod, undergraduate honours projects.
- Supervised award-winning student research on prediabetes presented at the 2026 National Research Day and Chain of Education Annual Healthcare Conference.

Conference and Research Event Organization

Date	Event	Role
2022-present	Research Methodology Workshops for Residents, BAU Faculty of Medicine	Organizer and trainer
14-15 Jun 2023	3rd Eastern Mediterranean/Arab States Regional Meeting of National Ethics and Bioethics Committees, Muscat	UNESCO consultant, presenter, and rapporteur
27 Apr 2024	1st National Research Day, American University of Beirut	Organizing Committee member representing BAU
3 May 2025	2nd National Research Day, Saint Joseph University of Beirut	Organizing Committee member representing BAU
7 May 2025	Trauma in Medicine Conference, Beirut Arab University	Conference moderator
2/30 May 2026	3rd National Research Day, Lebanese University	Organizing Committee member representing BAU; research supervisor

Selected Conference Presentations Moderation and Participation

- 9 Apr 2026 - 46th Ain Shams University Medical Congress, Cairo: speaker, “AI in Medical Research: ally or shortcut?”
- 13 Jul 2026 - Chain of Education Annual Healthcare Conference: supervisor of award-winning oral presentation on prediabetes.
- 30 May 2026 - Third National Research Day, Lebanese University: research supervisor/mentor; best BAU Faculty of Medicine research presentation.
- 2025 - 8th Integrated Medical Student Research Conference, Ain Shams University: delivered three oral presentations.
- 18 Sep 2025 - The Next Wave of Medical Education: Redefining Healthcare in the AI Era, Lebanese American University: moderator.
- 26 Jul 2025 - International Lebanese Medical Association Conference, Beirut: speaker/panelist, “Bioethics - The Ethical Imperative of Artificial Intelligence.”
- 7 May 2025 - Trauma in Medicine Conference, BAU: moderator and opening remarks.
- 10 Apr 2025 - 45th Ain Shams University Medical Congress, Cairo: chairperson/speaker, “Infodemic during Health Crisis.”
- 21 May 2024 - TEPDAD/WFME Medical Education Conference, Türkiye: oral presenter, “The Program for Research Opportunities in Medicine and Innovative Sciences (PROMISE).”
- 14-15 Jun 2023 - Regional Meeting of National Ethics and Bioethics Committees, Muscat: presenter and rapporteur, “UNESCO Regional Roadmap to the Right to Science.”
- 8 Apr 2022 - GREM webinar on Research Ethics on Human Subjects: speaker, “Pathopublidemic during COVID-19 Crisis.”

- 22 Feb 2022 - BAU Faculty of Medicine International Accreditation Ceremony: master of ceremony and welcome address.

Earlier Selected Conferences and Communications

- 2019 - UNESCO/Lebanese National Consultative Committee meeting on ethics of research involving human subjects and biosamples, Beirut: oral presentation.
- 2019 - Beyond Ethics teacher training and GREM Second Conference, Tripoli, Lebanon.
- 2018 - Urban Health and Wellbeing, Beirut Arab University: oral presentation.
- 2018 - Fourth National Bioethics Colloquium and founding meeting of GREM, Casablanca, Morocco.
- 2018 - XIII Makassed Medical Congress, Beirut: oral presenter and moderator.
- 2017 - Fifth World Conference on Research Integrity, Amsterdam; 48th Middle East Medical Assembly, AUB.
- 2016 - 22nd International Scientific Conference on the Social Avenues of Research, USEK: oral presentation; UNESCO Ethics Teacher Training Course; 47th Middle East Medical Assembly.
- 2015 - Horizon 2020 International Scientific Committee meeting, USJ; Second LAU International Conference on Medical Education.
- 2014 - XI Makassed Medical Congress; ACMEL Faculty Development Summit, USJ.
- 2012 - Second Ubiquitin Research and Drug Discovery Conference, Las Vegas: presentation on proteasomal inhibition and dysferlin.
- 2011 - Myology, Lille, France: presentations on proteasomal inhibition in dysferlinopathies and dysferlin-HDAC6 interactions.
- 2010 - Dysferlin and membrane-resealing presentations, Naples, Italy, and Magglingen, Switzerland.
- 2009 - FEBS meeting, Prague, and Boston meeting: dysferlin-tubulin research presentations.
- 2008 - American Society for Cell Biology, San Francisco: invited speaker on Itch-mediated tBid degradation; FASEB, Vermont.
- 2007 - FEBS, Vienna: poster on EGF activation of Itch; ACFAS, Trois-Rivières: oral presentation.
- 2006 - FASEB Summer Research Conference: oral presentation on Itch-EGFR cross-regulation.
- 2005 - American Society for Cell Biology, San Francisco: presentation on regulation of Itch by EGFR.

Institutional Academic and Professional Service

- Member, Beirut Arab University Scientific Research Committee / Research Projects Committee, continuous service documented from 2021-2026.
- Research representative during the 2021 FIBAA institutional accreditation process.
- Member, Faculty of Medicine Student Activities and Community Service Committee (2021-2022 and 2025-2026) and Student Affairs Committee (2024-2025).
- Member, Faculty of Medicine Assessment Committee, 2021-2022.
- Head/leadership role, Faculty Research Committee; coordinated review and development of student and resident research proposals.
- Supported Faculty community outreach, student engagement, blood donation, health-awareness campaigns, free medical days, and hospital volunteering activities.
- Judge/evaluator, National Science Competition / Science Match for school students, 2023-2025.
- Member, organizing committees for National Research Day, 2024-2026.
- Contributor to BAU Faculty of Medicine social-media and public-awareness initiatives.

Bioethics Research Governance and External Engagement

- Individual Specialist/Consultant, UNESCO Regional Office in Beirut, 2023: developed a Regional Roadmap to Promote the Right to Science in the Arab Region.

- Founder member, Groupe de Réflexion sur l'Éthique en Méditerranée (GREM).
- Institutional Review Board / Research Ethics Committee member, Makassed General Hospital, 2023-2026.
- Research ethics/IRB involvement with Hammoud Hospital and university-related ethics activities.
- Member, UAOLB Scientific Research Committee, contributing to strategies for collaborative research among Lebanese universities.
- Member, UNESCO Chair for Bioethics activities and regional ethics initiatives.

Peer Review

Reviewer for peer-reviewed journals including Qatar Medical Journal; Qatar Journal of Public Health; Health Science Reports; Annals of Environmental Science and Toxicology; European Journal of Clinical Pharmacology; Birth; Journal of Biological Chemistry; PLOS ONE; and other biomedical and public-health journals.

Professional Development and Certifications

- Medical Ethics Professors Training Course, UNESCO, 2016; Beyond Ethics teacher training, UNESCO, 2019.
- MERETI Research Ethics Program, University of Maryland, 2017.
- FELASA Certificate in Laboratory Animal Science, 2011; FELASA qualification for persons responsible for directing animal experiments, 2012.
- Essential Elements of Ethics (98%), 24 Nov 2021; Introduction to Clinical Research (100%), 24 Nov 2021.
- Advanced Cardiovascular Life Support, 25 Nov 2021; Basic Life Support, 13 Dec 2021.
- Introduction to Good Clinical Laboratory Practice (100%), 25 Nov 2021.
- Data Safety and Monitoring Boards for Clinical Trials (100%), 13 Dec 2021.
- Introduction to Informed Consent (92%), 13 Dec 2021.
- The Study Protocol Parts One and Two (96% and 100%), 13 Dec 2021.
- Ethics in Epidemics, Emergencies and Disasters (96%), 23 Dec 2021.
- What Is Open Science? (100%), 23 Dec 2021.
- Data Visualization - An Introduction, 4 Jan 2022.
- Ethics and Best Practices in Sharing Individual-Level Research Data (90%), 4 Jan 2022.
- Nutrition: An Introduction, 4 Jan 2022.

Technical Competencies

Mammalian cell culture; viability and apoptosis assays; autophagic-flux assessment; western blotting; quantitative PCR; immunofluorescence and confocal microscopy; molecular cloning; protein interaction and ubiquitination studies; histopathology; experimental design; clinical and survey research; biostatistical analysis; scientific writing; research governance; curriculum design; and Microsoft Office.