

Jamilah Borjac-Natour

Date of Birth : August 7, 1964
Place of Birth : Beirut, Lebanon
Marital Status : Married
Present Address : Khalil Sarkis Street, Eter Bldg, 6th floor, Beirut, Lebanon
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EDUCATION AND PROFESSIONAL SPECIALIZATION

- 1/93 - 10/97** : Tulane University, Department of Biochemistry, SL43,
1430 Tulane Avenue, New Orleans, Louisiana 70112. U.S.A.
Degree awarded: **Ph.D. in Biochemistry**.
Dissertation entitled: **RNA Determinants of Specificity of
Two Phylogenetically Related Single-Stranded DNA
Binding Proteins**.
- 9/90 - 12/92** : University of Maryland at Baltimore County, Baltimore,
Maryland, U.S.A. (started Ph.D. program then transferred to
Tulane University).
- 9/85 - 9/87** : American University of Beirut, Beirut, Lebanon. Degree
awarded: **M.Sc. in Biochemistry**. Thesis entitled: **The Binding
of Sperm Whale Myoglobin to Human Haptoglobin**.
- 9/82 - 9/85** : American University of Beirut, Beirut, Lebanon. Degree
awarded: **B. Sc. in Chemistry**.

ACADEMIC APPOINTMENTS

- 4/2025- till now** : **Beirut Arab University**
Professor of Biochemistry
- 9/2013- 4/2025** : **Beirut Arab University (BAU, Debbieh)**
Associate professor. Department of Biological Sciences.

Courses Taught:

Undergraduate Courses:

Structural Biochemistry (BCHM331)
Metabolic Biochemistry (BCHM336)
Clinic Biochemistry (BCHM432)
Molecular Biology of Cancer (BCHM448)
Gene Therapy (BCHM446)
Biochemical Basis of Nutrition (BCHM445)
Seminar in Biochemistry (BCHM435)
Senior Project (BCHM444)

Graduate Courses:

Bacterial Biochemistry (BIOL744)
Directed Individual Studies in Biochemistry (BCHM702)
Protein Structure and Function (BCHM611)
Advanced Biochemistry (BCHM613)
Research Techniques (BCHM612)
RadioBiology (MDPH605)
Technical Writing and Research Skills (GNSC621)
Advanced Physical Biochemistry (BCHM620)

2012- 2013 : **American University of Beirut (AUB, Beirut).**
Performing research at AUB in the laboratory of Dr. J. Usta.
Research aims at determining the cytotoxic effect of different chemicals on HaCat cell.

2011-6/2014 : **Lebanese American University (LAU, Beirut)**
Courses Taught:

Introduction to Biochemistry (BCH301)
Introduction to Biology (BIOL200)
Basic Organic Chemistry (CHM310)

2007- 3/2014 : AUB, Beirut

Course Taught:

Introduction to Biochemistry (NFSC261)

2003- 9/2012 : **Lebanese International University (LIU, Beirut).**
Full-time faculty member.
(Faculty member ranking was not available)

2009-2011 : Coordinator of the Biochemistry major. One of my main responsibilities is the arrangement of the biochemistry courses syllabi and labs in terms of content and updating them.

2009-2012 : Committee Member of “new faculty” interviewing panel.

Courses Taught:

Biochemistry I (BIOC300)
Medical Biochemistry (BIOC310)
Biochemistry II (BIOC350)
Biotechnology (BIOC445)
Advanced Techniques in Biochemistry (BIOC450)
Enzymology (BIOC375)
Modern Topics in biochemistry (BIOC490)
Clinical Chemistry and Lab (BMED450 and 450L)
Cell and Molecular biology (BIOL275)
Human Molecular Genetics (BIOC480)

1998-2004 : LAU, Beirut Assistant professor

Courses Taught:

Graduate courses:

Advanced Molecular Biology (BIO 822)
Research Methods I (BIO805)
Research Methods II (BIO806)
Special Topics in Biology (BIO881)

Undergraduate courses:

Introduction to Biochemistry (BCH301-4 credits).
Biology Senior Study (BIO 499-3 credits)
Human Nutrition and Metabolism (NUT201-3 credits).
Introduction to Biology (BIO101- 4 credits)
Introduction to Chemistry and its lab (CHEM101-4 credits)
Introduction to Physical Science and its lab (PHY101-4 credits).
Laboratory part for the Zoology course (lab for Bio201).
Laboratory part for Plant physiology course (lab for Bio 341).

2003-2004: BAU, Beirut

Courses Taught:

Graduate courses:

Molecular Genetics
Advanced Molecular Biology

2/2000 - 6/2000 : Performing research at AUB in the laboratory of Dr. R. Slim.
Research aimed at the identification of a gene involved in
hydatidiform molar pregnancies.

2/1998-6/2000: Makassed National School of Nursing, Beirut

Courses taught:

General Chemistry
Biochemistry

9/1987-8/1990 : BAU, Beirut

Instructor/Teaching assistant in organic and analytical chemistry
Department of Pharmacy.

1/88 - 8/90 : Medical Representative, L'Union Pharmaceutique d'Orient.
Beirut, Lebanon.

Synergistic Activities:

Member of the following committees at BAU:

1. Graduate committee
2. Laboratory committee
3. Research committee
4. IRB
5. Advisor of undergraduate Biology and Biochemistry students and Master Graduate Biochemistry students.

HONORS AND AWARDS

RNA Determinants of Specificity of Two Single-Stranded DNA Binding Proteins. Presented at the Oncology Research Update; Oct 5, 1997. New Orleans, Louisiana; U.S.A. (**Poster won First Award**)

INVITED SPEAKER OR PARTICIPANT

1. Oral presentation entitled: ***Moringa Oleifera* Leaf Extracts Induce Apoptosis in Human Lung Adenocarcinoma Cell Line A549**. First International symposium on Moringa: A Decade of Advances in Research and Development. 15-18 November **2015**.
2. Poster Presentation entitled: Cytotoxic Effect of Triclosan on Primary Keratinocytes at the 7th Annual research Day April 6th, **2013**. AUB, Beirut, Lebanon.
3. Presentation on **The Ribonucleic Acid Specificity of Two Single-Stranded DNA Binding proteins** presented at the Proceedings of the international Conference on Research Trends in Science and Technology **2000**, LAU, Beirut, Lebanon.
4. **The Single-Stranded DNA Binding Protein of Phage RB69**. Presented at the International Meeting of T4 Phage; August 8-12, **1996**. Olympia, Washington, U.S.A.

INVITED SEMINAR SPEAKER

1. Presentation on **The Ribonucleic Acid Specificity of Two Single-Stranded DNA Binding proteins** presented at LAU, Beirut for Biology students.

GRADUATE STUDENTS SUPERVISED/SUPERVISING

Ph.D students who defended their thesis:

1. Ms. Rana Bitar: Thesis entitled: **Anti-Inflammatory Properties of *Annona muricata* Leaves Extracts in Rodents** (May 2019).
2. Miss Hajar Karali: Thesis entitled: **Biochemical Effects of *Ocimum basilicum* on Acute Kidney Injury** (Feb 2020).
3. Mr. Mohamad Halawi: thesis entitled: **Evaluating the Quality of Consumable Water in Lebanon and Correlating it to Oral Candidiasis in Mice Model** (June 2020)
4. Miss Paula Romanos: Thesis entitled: **Discrimination Between Lebanese Identical Twins Using Epigenetics** (June 2020).

5. Miss Alaa Matar: Thesis entitled: **Biochemical Studies on Multiple Sclerosis in Bekaa Region- Lebanon (August 2020).**
6. Miss Farah Rida. Thesis entitled: **Biochemical effects of *Moringa Oleifera* leaves extract on cancer cell lines (Jan 2021).**
7. Ms. Marwa al Hassan: Thesis entitled: **The Mechanism of Action of Sorafenib on Colon Cancer (Nov 2021).**
8. Ms. Mirna Bou Hamdan: Thesis entitled: **Effect of Combined T Lymphocyte Therapy and Chemotherapy on Colon Cancer in Mice (Nov 2021).**
9. Miss Mariam Shaheen: Thesis entitled: **Neuroprotective Effects of Aqueous Saffron Extract in a Weight drop TBI Model via SIRT1-dependent regulation on NLRP3 inflammasome (May 2022).**
10. Ms. Safa Nassar: Thesis entitled: **Effect of Veterinary Antibiotics Released in Lebanese Agricultural Land on ICARDA most significant Crops (Aug 2022).**
11. Miss Marwah Salem: Thesis entitled: **Neuroprotective Role of Crocin in a Repetitive Mild Traumatic Brain Injury Mouse Model (Oct 2022).**
12. Miss Carine Mounzer: Thesis entitled: **Environmental Risk Assessment of Antibiotics and Antibiotic Resistant Bacteria in Litani River, Lebanon (March 2024).**
13. Ms. Maya Dalleh: Thesis entitled: **Certified potato seeds production in Lebanon using tissue culture techniques (Nov 27th, 2024).**
14. Ms. Samah Hachem: Thesis entitled: **Effect of *Gundelia tournefortii* Extract on Polycystic Ovary Syndrome-Induced Implications in Mice. (Feb 6th, 2025).**
15. Miss Israa Assaf: Thesis entitled: **In Silico, in Vitro and in Vivo Effects of Selected Lebanese Herbs against Hospital Acquired Carbapenem-Resistant *Acinetobacter baumannii*.**
16. Ms. Samaher Ghaith: Thesis entitled: **Biological control in organic agriculture**
17. Mr. Mohamad Saleh: Thesis entitled: **Impact of Afforestation on Carbon Sequestration and Soil Properties under Eastern Mediterranean Semi-Arid Conditions**
18. Miss Mona Tfaily: thesis entitled: **Antibacterial Effect of *Actinobacteria* Species Isolated from the Rhizosphere of *Origanum majorana*.**

Ph.D students in progress:

1. Miss Alya Abou Darwiche: Thesis entitled: **Evaluation of the Biological and Bioremediation Activities of Myxobacteria Isolated from Lebanese Soils.**
2. Mr. Hicham Younes: **Investigating the p53-Dependent/Independent Oxidative Regulation of Essential Oils Extracted from *Cedrus libani* Leaves against Cisplatin-Resistant Cancer Cells.**
3. Ms. Rola Haris: thesis entitled: **Effect of *Malva parviflora*, *Origanum majorana*, and *Urtica dioica* extracts on Periodontitis patients: A clinical and in vitro microbiological study.**
4. Ms. Hiba Faour: thesis entitled: **The Effect of *Nigella sativa* and *Salvia officinalis* Plant Extracts on Polycystic Ovary Syndrome Induced in Mice.**
5. Ms. Hoda Dakdouk: Thesis entitled: **The Effects of *Moringa oleifera*, *Mucuna pruriens* and *Pistacia atlantica* Extracts on Parkinson's Disease Model in Mice.**
6. Ms. Iman Housseini: Thesis entitled: **The Effects of *Moringa oleifera*, *Mucuna pruriens* and *Pistacia atlantica* Extracts on Acute kidney Injury in a Parkinson Disease Model.**
7. Miss Zahra Farroukh: thesis entitled: **Isolation and Characterization of Locally Protease Producing Bacteria from South Lebanon.**
8. Ms. Maryam Kobeissy: Thesis entitled: **Study of Two Oxide Derivatives on Metabolic Functions and Effect of *Matricaria chamomilla* Extract in Exposed Mice**

Master students who defended their thesis: Since 2014-on.

1. Miss Rim Dannaoui. Thesis entitled: **Effect of Carboplatin on Phosphatidylcholine and Phosphatidylinositol Levels in the Plasma Membrane of Cancer Cells and Its Association with Invasiveness (March 2015).**
2. Miss Hiba Saab. Thesis entitled: **Effect of Methotrexate on Phosphatidylserine and Phosphatidylethanolamine Levels in the Plasma Membrane of Cancer Cells and Its Association with Invasiveness (March 2015).**
3. Miss Esraa Mousa. Thesis entitled: **Association between Mutations in Beta Globin Gene and Sickle Cell Disease Complications in Palestinians Refugees in Lebanon (Nov 2016).**

4. Miss Amani Audi. Thesis entitled: **Effect of Acid Sphingomyelinase on Propagation of Influenza Virus (Jan 2017).**
5. Miss Yasmine Khafajah. Thesis entitled: **Effect of Nanoparticles on Neurotransmitter Levels in Rodent Models with Parkinson Disease (June 2017).**
6. Miss Mariam Shahine. Thesis entitled: **Examining the Effect of Thiamine Dilaurylsulfate (TDS) and Malic Acid on Bacterial Growth in Lebanese Hummus Paste (Sept 2017).**
7. Miss Sara Abou Khalil: thesis entitled: **Chemical and Microbiological Analysis of Deir Knoun Ras El Ain Dump Effluents and Their Effect On Liver And Kidney Functions in Rodents (Oct 2017).**
8. Miss Nour Bast: Thesis entitled: **Biochemical Effect of *Urtica dioica* Leaves Extract on Acute Myeloid Leukemia Cells (Jan 2018).**
9. Miss Manal Joumaa: Thesis entitled: **The Effect of *Matricaria chamomilla* Extract on 1, 2-Dimethylhydrazine Induced Colon Cancer in Rodents (Jan 2018).**
10. Miss Safa Aridi: Thesis entitled: **The Effect of *Teucrium polium* against Induced Colitis in Rodents (Feb 2018).**
11. Miss Sirine Zaatari. Thesis Entitled: **Association of LRP5 Polymorphism and the Risk of Osteoporosis in Lebanese Menopausal Women (June 21018).**
12. Miss Rawan Kawash: thesis entitled: **Effect of *Matricaria chamomilla* on a Tumor Suppressor Gene and Hepatic Inflammation in Mice with Colon Cancer (Aug 2018).**
13. Mr. Alaa Al Moubarak: thesis entitled: **The Effect of *Eriobotrya japonica* leaves extract on the fertility of the male mice (Dec 2018).**
14. Ms. Salima Shebbo: thesis entitled. **The Effect of *Matricaria chamomilla* on DMH-induced Hepatic Oxidative Stress in Colon Carcinogenesis in Rodents (Oct 2018).**
15. Miss Nour Akhdar: thesis entitled: **The Effect of Pumpkin Seeds Extract on Spermatogenesis in Male Mice (Dec 2018).**
16. Miss Roweida Bawab: thesis entitled: **The Effect of *Ceratonia siliqua* Seeds Extract on the Fertility of Male Mice (Feb 2019).**
17. Miss Shada Jennani: thesis entitled: **Association of Specific Single Nucleotide Polymorphism and the Risk of Multiple Sclerosis Development in Lebanese Population (April 2019).**
18. Miss Sumaya Al Breidy: Thesis entitled: **Association of CYP27B1 Polymorphism and Vitamin D levels with Multiple sclerosis Development in Lebanese Population (Jan 2020).**
19. Miss Naela Assaf: thesis entitled: **The Effect of *Annona muricata* Extract on EGFR Signaling Pathway in DMH-Induced Colon Carcinogenesis in Mice (Jan 2020).**
20. Miss Yasmine Itani: thesis entitled: **Effect of *Annona muricata* Leaves' Aqueous Extract on the JAK/STAT3 Signaling Pathway in DMH-induced Colon Carcinogenesis in Mice (Feb 2020).**
21. Miss Sara Shmais: thesis entitled: **Effect of *Annona muricata* Extract on PI3k/Akt signaling pathway in DMH-induced Colon Carcinogenesis in Mice (Feb 2020).**

22. Miss Layane ElMasri: thesis entitled: **The Effect of *Annona muricata* Leaves Extract on Colorectal Cancer induced by 1, 2- Dimethylhydrazine in Mice (July 2020).**
23. Miss Wafaa El Zeino: Thesis entitled: **Prevalence of Antibiotic Resistant Bacteria in domestic Water Storage Tanks in Saida (Sept 2020).**
24. Ms. Widad Dia: Thesis entitled: **Effect of *Annona muricata* Leaves' Extract on GLP-1 Signaling Pathway in Pancreatic Cells (July 2020).**
25. Miss Nour Mahmoud: thesis entitled: **The Effect of *Chenopodium quinoa* Extract on 1,2-Dimethylhydrazine Induced Colon Cancer in Rodents (Nov 2020).**
26. Miss Rim Mrad: Thesis entitled: **Effect of *Salvia fruticosa* on WNT Signaling Pathway in Acetic Acid Induced Colitis in Mice (Feb 2021).**
27. Miss Noura Bzeih: thesis entitled: **Enhancing Astaxanthin Production by *Haematococcus pluvialis* (May 2021).**
28. Miss Suzana Salhab: Thesis entitled: **Effect of *Salvia fruticosa* on Acetic Acid Induced Colitis in Mice (July 2021).**
29. Miss Abir Komeiha: Thesis entitled: **The Effect of Quinoa Extract on DMH-induced Hepatic Oxidative Stress and PI3K/ AKT/ mTor Pathway in Colon Carcinogenesis (Jan 2022).**
30. Miss Leila Farhat: Thesis entitled: **Effect of Graviola Leaves' Extract on cAMP Signaling Pathway in Murine Pancreas (Feb 2022).**
31. Miss Rafal Hassan: Thesis entitled: **Evaluating the Effect of Hypothyroidism on Hypertensive and Vitamin D Deficient Iraqi Patients (April 2022).**
32. Miss Sara Seamr: thesis entitled: **Evaluation of the Effect of Vitamin D Deficiency on Liver and Kidney Functions of Iraqi Type II Diabetic Patients (April 2022).**
33. Miss Reem Kassem: Thesis entitled: **The Effect of *Salvia fruticosa* Extract on Biofilm Formation and Oxidative Stress Genes Expression in Bacteria (Jan 2023).**
34. Miss Walaa Kosseibani: Thesis entitled: **The Effect of *Satureja thymbra* Extract on Biofilm Formation and Oxidative Stress Genes Expression in *Staphylococcus aureus* and *Pseudomonas aeruginosa* (April 2023).**
35. Ms. Mariam Mazboudi: Thesis entitled: **Comparison Between the Effect of the Aqueous Extracts of *Satureja thymbra* and *Cupressus sempervirens* on the Antimicrobial Activity of Selected Bacteria from Isolated Iraqi Patients (Oct 2023).**
36. Miss Dina Shouman: Thesis entitled: **Anti-Acne Effect of *Lavendula angustifolia* Aqueous Extract (Feb 2024).**
37. Miss Jana Baddreddine: Thesis entitled: **Investigating the Effect of *Rosemarinus officinalis* Aqueous Extract on Acne Bacteria (Feb 2024).**
38. Miss Zeina Darwiche: Thesis entitled: **Effect of *Myrtus communis* Aqueous Extract on Acne-forming Bacteria. (March 2024).**
39. Miss Nour Deeb: Thesis entitled: **Physico-Chemical and Microbial Evaluation of the Ground Water in Ein El Hilweh Palestinian Camp. (March 2024).**
40. Miss Israa Haidar: Thesis entitled: **Antibacterial and Antioxidant Effects of the Aqueous Extract of *Laurus nobilis* Leaves. (May 2024).**

41. Miss Jinan Oneissi: Thesis entitled: **Antibacterial and Antioxidant Effects of *Salvia officinalis* Leaves' Aqueous Extract.** (May 2024).
42. Miss Aya Mawed: Thesis entitled: **Antibacterial Effect of *Rosmarinus Officinalis* Extract.** (Dec 24, 2024)
43. Miss Aya Fakhri: Thesis entitled: **Assessment of the Anti-Oxidative and Anti-Bacterial Effects of the Aqueous Extract of the *Crocus sativus* L. Cultivated in Bekaa.** (Dec 24, 2024)
44. Miss Sara Zeidan: Thesis entitled: **Studying the Effect of Verapamil on P-glycoprotein Expression under Hyperglycemic Condition.** (Dec 30, 2024)
45. Mr. Tarek Batakji: Thesis entitled: **Investigating the Effect of Verapamil on P-glycoprotein Function under Hypoglycemic Condition.** (Dec 30, 2024)
46. Miss Dareen Khalil: thesis entitled: **The Effect of *Inula viscosa* Aqueous Extract on Oxidative Stress on Selected Gram-Positive and Gram-Negative Bacteria.** (Feb 21, 2025)
47. Miss Farah Bhar: thesis entitled: **Studying the Antioxidant Capacity and Antimicrobial Activity of Moringa and Rosemary Essential Oils.** (Feb 21, 2025).

Defense Committee Member:

PhD Students

1. Miss Malak Mezher: Thesis entitled: **Characterization, Biomedical, and Environmental Applications of Biosynthesized Magnesium and Sodium Nanoparticles (BAU).**
2. Miss Dima Bohlok: Thesis entitled: **Environmental and Genetic Modulation of Antibiotic Resistant Bacteria Isolated from Litany River and the Effect of Essential Oils on Isolated Bacteria (BAU).**
3. Miss Katia Sawaya: Thesis entitled: **The Effect of the Desert Truffle *Terfezia boudieri* Extracts on Colon Cancer Cell Lines (BAU).**
4. Miss Fatima salloum: Thesis entitled: **Investigating the Effect of Trout Fish-Based Diet on Obsessive Compulsive Disorder Mice Model. (BAU in collaboration with AUB).**
5. Miss Hawraa Zahreddine: Thesis entitled: **Phytochemical Screening and Biological Activities of Lebanese *Spartium junceum* L. (BAU).**
6. Miss Hiba Hellany: Thesis entitled: **Detection of Fungal and Aflatoxin B1 Contamination in Lebanese Nuts and Decontamination Strategies (BAU)**
7. Miss Layal Abou Assi: Thesis entitled: **Novel Role of TAU: a Leading or a Supporting Actor in Diabetic Cardiac and Renal Complications (BAU in collaboration with AUB).**
8. Miss Katia Sawaya: Thesis entitled: **The Effect of the Desert Truffle *Terfezia boudieri* Extracts on Colon Cancer Cell Lines (BAU)**
9. Miss Mariam Salameh: Thesis entitled: **Effects of Electromagnetic Waves (GSM) on the Liver during Rat Fetal Development (BAU).**
10. Miss Rola Najib: Thesis entitled: **Evaluation of the Effects of Air and Soil Pollution on the Physiological and Biochemical Responses of *Quercus cerris* in the Ezer Forest (BAU).**

11. Ms. Nadine Zmorrod: Dissertation entitled: **Characterization and Bioremediation Potential of Halophilic Bacteria Isolated from Lebanese Habitats (BAU).**
12. Mr. Mohamad Merii: Dissertation entitled: **Alterations of Cytochrome P450s by Bisphenol A and/or Nicotine in Fetal and Adult Rat Brain (BAU).**
13. Mr. Khaled Naja: Dissertation entitled: **Analysis of CYP2C9 and OCT1 polymorphisms in Lebanese patients with type 2 diabetes mellitus: Influence on metformin/ glibenclamide therapy (BAU).**
14. Miss Narmin Zmorrod: Dissertation entitled: **Bioremediation and Biotechnological Applications of Alkaliphilic Bacterial Isolates (BAU).**
15. Miss Farah Yassir: Thesis entitled: **Impact of Probiotics on Gastric Mucosa (BAU).**
16. Miss Katia Sayyed: Dissertation entitled: **Interactions de la fumee de cigarette et ses composes avec les transporteurs membranaires dans des modeles hepatiques et non-hepatiques (LU).**
17. Miss Sally Badawi: Dissertation entitled: **Characterization of dynamic molecular networks in control ischemic-reperfused mouse heart (LU).**
18. Miss Mirna Hajj: Dissertation entitled: **Phylogenomics & Molecular studies of Lhr-type SF2 helicases in Archaea and Bacteria (LU).**
19. Miss Rana Lebdy: Dissertation entitle: **Caracterisation D'un Nouveau Role de GLN3 dans la Maintenance de la Stability de Genome (LU).**
20. Miss Fatima Al Hourani: Dissertation entitled: **Le ciblage des enzymes épigénétiques SUV4-20H constitue une nouvelle stratégie thérapeutique combinée pour le traitement du cancer de la prostate. (LU)**
21. Miss Mariam Wehbi: Dissertation entitled: **Cold receptor TRPM8 orchestrates lipid metabolism and secretion through SCD1 regulation: involvement from prostate physiology to metabolic syndrome and heart failure. (LU)**

Master Students:

1. Miss Karen Bernaba: thesis entitled: **The Effects of the Lebanese Meghli Ingredients on Colon Pathogenic Bacteria and Inflammatory Bowel Disease Model in Rats (BAU).**
2. Miss Marwa Othman: Thesis entitled: **Synthesis, Characterization and Anticancer Studies of Resorcin[4]arene Receptor and Its Application as Nicotine Filter.**
3. Miss Ula Fouad Ahmad Sayyed: Thesis entitled: **Water pipe smoke induces tumorigenesis and DNA methylation of the tumor suppressor gene PARPb in normal lung cells. (Gulf Medical University, UAE)**
4. Miss Mirna Swayden: Thesis entitled: **Effect of Recombinant Human Arginase I [HuArgI(Co)-PEG5000]-Induced Arginine depletion on Colon Cancer Cell Lines.**
5. Miss Youmna Orfali: Thesis entitled: **Effect of Silibinin against Methotrexate-Induced Hepatotoxicity in Arthritis Rat Model.**

6. Mr. Ahmad AlJanabi: thesis entitled: **Effect of Insulin and Saxagliptin on IL-6, TNF- α , CRP and CCL2 in a Cohort of Iraqi Patients with Type 2 Diabetes Mellitus.**
7. Mr. Ahmad Kasha: Thesis entitled: **Effect Of Metformin, Glimepiride And Their Combination On Some Inflammatory Markers In A Cohort Of Iraqi Patients With Type 2 Diabetes Mellitus.**
8. Mr. Amine ElSalla: Thesis entitled: **Effect of the co-treatment of Essential Oil of Rosemary and 5-Flurouracil on HCT-116.**
9. Mr. Bahaa Hassanieh: Thesis entitled: **Effect of Propolis and 5- Fluorouracil on HCT-116 cancer cells.**
10. Miss Ola Ghaziri: Thesis entitled: **Potential Therapeutic Effect of Lebanese Carob (*Ceratonia siliqua*) in Arthritis Rat Model.**

Master: 2001 : Advised the thesis research of Miss Mayada Hamed, the first student who graduated from the Master Program of Molecular Biology at LAU. Thesis entitled: **Cloning and Identification of a Novel Sugar Kinase from Escherichia Coli K12.**

PUBLICATIONS

1. Dakdouk, H., Borjac, J. AI-Powered Revolution in Parkinson's Disease: Pathways to Early Detection and Personalized Care. **Submitted** to Journal of Movement Disorders. June 2026
2. Jawad, A., Saleh, M., Baydoun S., Mostafa, W., Borjac, J. Impact of soil amendment on afforestation establishment in Chmistar, Lebanon. **Submitted** to Iforest. May 2026
3. Jaafar, R., Alhakawati, N, Hayek, N, Usta, J., **Borjac, J.** Chemical composition, Antibacterial, and Antioxidant Activities of *L. angustifolia* Essential Oil against Human Pathogenic Clinical Bacterial Isolates. **Under Revision** to Bacteria.
4. **Borjac, J.**, Mahmoud, N., Halawi, R., Matar, A. The Effect of *Chenopodium quinoa* Extract on 1,2-Dimethylhydrazine-Induced Colon Cancer in Rodents. **Under Revision** to Biochemistry Research International. Feb 2026.
5. Assaf, I., Jabbour, Z., Abou Fayyad, A., **Borjac, J.** Antimicrobial and Antioxidant Activities of *Rhus coriaria* L. against Carbapenem-resistant *Acinetobacter baumannii*. 2026. 2026; 2026:5238069. <https://doi.org/10.1155/ijm/5238068>Digital Object Identifier (DOI)
6. Al Hussein, I., Dakdouk, H., **Borjac, J.** Dual Neuroprotective and Nephroprotective Effects of *Mucuna pruriens*, *Moringa oleifera*, and *Silybum marianum* (Milk Thistle) via modulation of PI3K/AKT/mTOR and Nrf2/NF- κ B pathways in a murine comorbid PD–AKI model. *Int. J. Mol. Sci.* 2026, 27(9), 4021; <https://doi.org/10.3390/ijms27094021>.
7. Koumayha, A., Borjac, J., Matar, A. The Effect of *Chenopodium quinoa* Willd. Extract on DMH-Induced Colorectal Cancer and Hepatic Oxidative

Stress through Monitoring PI3K/Akt/mTOR Pathway. *Advances in Pharmacological and Pharmaceutical Sciences*, 2026; 2026:5552606
<https://doi.org/10.1155/adpp/5552606>.

8. Faour, H., Hachem, S., AlBattal M., **Borjac, J.** The Combinatory Effect of *Salvia officinalis* and *Nigella sativa* Extracts on Polycystic Ovarian Syndrome Induced in Mice. *Global Advances in Integrative Medicine and Health*. Volume 15: 1-12.
9. Dakdouk, H., Al Housseini, I., Hachem, S., **Borjac, J.** Neuroprotective Effects of *Moringa oleifera*, *Mucuna pruriens*, and *Silybum marianum* in a Rotenone-Induced Parkinson's Disease Model. *Journal of Applied Pharmaceutical Science*. Accepted. To be published in Volume 16, issue 4, 2026.
10. Farroukh, Z., AlBadan D., **Borjac, J.** Exploring alkaline protease activity of *Bacillus* strain isolated from Sidon Dumpsite, Lebanon. *BAU journal Science and Technology*. Vol. 7, Issue 1, 2025.
11. Kbaysi, M., Petrossian, R., **Borjac, J.** The Prophylactic Effect of Aqueous Chamomile Extract on Nitrogen Dioxide Exposed Mice. *BAU journal Science and Technology*. Vol. 7, Issue 1, 2025.
12. Al Housseini, I., Dakdouk, H., **Borjac, J.** Nephro-protective effect of *Mucuna pruriens*, *Moringa oleifera*, and Milk thistle extracts against APAP-induced Acute kidney injury in mice. 2025. *Kidney Blood Press Res* , DOI: 10.1159/000547253, July 8, 2025.
13. Dakdouk, H., Al Housseini, I., Shaheen, M., El Natour, H., **Borjac, J.** Comparative Neuroprotective Effects of *Moringa oleifera*, *Mucuna pruriens*, and Milk Thistle Extracts in a Rotenone-Induced Parkinson's Disease Model: Behavioral, Biochemical, and Histopathological Insights. 2025. *Edelweiss Applied Science and Technology*. ISSN: 2576-8484, Vol. 9, No. 7, 862-886, 2025.
14. Abo Zainab, M., Shaheen, M., Yusef, H., **Borjac, J.** Characterization and Evaluation of Clay Samples against Bacterial Pathogens. 2025. *Jordan Journal of Earth and Environmental Sciences*. 16 (3): 237-246. ISSN 1995-6681
15. Ghaith, S., Afram, M., **Borjac, J.** Nematicidal Activity of *Arum palaestinum* Extracts Against the Root-Knot Nematode, *Meloidogyne* spp. 2025. *BAU Science and Technology*, volume 6 issue 2, article 2.
16. Saleh, M., **Borjac, J.**, Baydoun, S., Salman, H., Mostafa, W. Assessing the Influence of Afforestation on Soil Quality and Soil Organic Carbon: A Case Study in Rashaya District, Lebanon: Afforestation and Soil Quality in Lebanon. 2025. *BAU Journal Science and Technology*, volume 6, issue 2 article 4.
17. Kbaysi, M., Petrosyan, R., **Borjac, J.** The Prophylactic Effect of Aqueous Chamomile Extract on Sulfur Dioxide Exposed Mice. *Edelweiss Applied Science and Technology* ISSN: 2576-8484 Vol. 9, No. 4, 3146-3158, 2025.

18. Tfaily, M., **Borjac, J.** Antimicrobial Potential of *Streptomyces* spp Isolated from the Rhizosphere of *Origanum majorana* in Lebanon. *Phytomedicine Plus*, Volume 5, Issue 2, May 2025, 100781.
19. Massri, L., **Borjac, J.**, Matar, A., Natour D. The Effect of *Annona muricata* Leave's Extract on WNT Signaling Pathway in Induced Colorectal Cancer in Mice. *BAU Journal-Science and Technology* Volume 6, Issue 1, 2024.
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Abstracts Presented in Conferences and Proceedings

1. Amani Audi, Nadia Soudani, **Jamilah Borjac**, Ghassan Dbaiho, Hassan Zaraket. Effect of Acid Sphingomyelinase on the Propagation of Influenza A Virus in Human Lung Epithelial Cells A549. 22nd International Scientific Conference of LAAS 2016.

2. Nour Al Bast, Mohamad H. Hodroj, Paola Ghanem, **Jamilah Borjac**, Sandra Rizk. Effect of *Urtica dioica* Leaves Extract on Acute Myeloid Leukemia Cells U937. 22nd International Scientific Conference of LAAS 2016.
3. Rana Bitar, **Jamilah Borjac**, Ragae Fahmi, Rajaa Fakhoury. Histopathological Effects of the *Annona muricata* Aqueous Leaves Extract on the Liver of Albino Mice. 22nd International Scientific Conference of LAAS 2016.
4. Rida, F., Fakhouri, R., Usta, J. **Borjac, J.** Cytotoxic Effect of Moringa Oleifera on Colon Cancer cell lines. (Abstract presented in AVRDC - The World Vegetable Center (MORINGA SYMPOSIUM and CONGRESS) on November 15-18, 2015)
5. Moussa, E., Khawaja, G., **Borjac, J.** Association between Mutations in β Globin Gene and Sick Cell Disease Complications in Palestinian Refugees in Lebanon.
6. **(Abstract Presented in LAAS 2015).**
7. Swayden, M., Bekdash, A., **Borjac, J.**, Abi Habib, RJ. Effect of Recombinant Human Arginase [HuArgI(Co)-PEG5000]-Induced Arginine depletion on Colon Cancer Cells. **(Abstract Presented in LAAS 2015).**
8. Hamed M., Khachab M., Jabi S., and **Borjac J.** Cloning and identification of a novel sugar kinase in Escherichia Coli K-12. Proceedings of the international Conference on Research Trends in Science and Technology 2002.

Conference Organized:

Organized a conference pertaining to PEER project that took Place at Beirut Arab University Debbieh Campus on October 24th, 2017. Conference entitled by:
Hand in Hand towards a Better Environment.

Workshop Organized:

Co-Organized the workshop entitled “**Green Environment Pollution control**” sponsored by USAID that took place at Beirut Arab University Debbieh Campus on November 27th, 2018.

RESEARCH PROPOSALS:

1. **Proposal entitled:** “Hazardous Effect of Pollutants in Deir Kanoun Dump on the Syrian Refugees and the Lebanese People” _Grant received from the **Partnerships for Enhanced Engagement in Research (PEER) Program cycle 5.** Proposal was funded for an amount of \$159,200 over 24 months starting 2016-2018.
2. **Proposal entitled:** “ Genetic Predisposition to Endometriosis in Lebanese Female”. Grant received from CNRS for an amount of 26,000,000 LL over 24 months starting 2016-2018.

AREA of EXPERTISE:

- Molecular biology techniques such as: Cell culture, Cloning, q-PCR, PCR, DNA and RNA purification, RNA footprinting, Blotting, DNA and RNA sequencing, etc.
- Soil and Water analysis
- Protein and peptides purification using HPLC, FPLC, and the Pharmacia Smart system. Gel electrophoresis.
- Eukaryotic and Prokaryotic Cell culture.
- Licensed to work with radioactivity.
- Mass spectroscopic techniques such as Laser Desorption and Electrospray Ionization and FAB.
- Computer Programs Knowledge: Macintosh and PC programs: such as Canvas, Powerpoint, Adobe Photoshop, Gene Construction Kit, PCGENE, Microsoft office.

LANGUAGE PROFICIENCY

Arabic
English
French

REFERENCES:

Available upon request.