



FONDATION
USJ 1875

Université Saint-Joseph de Beyrouth
Saint Joseph University of Beirut
جامعة القديس يوسف في بيروت



**CALL FOR SUPPORT
TO USJ'S INFRASTRUCTURE
AND EQUIPMENT
IN LEBANON AND
THE MENA REGION**

More
MODERNITY



**USJ
TOUJOURS**
plus

**USJ
ASPIRE**
For more

**FUNDRAISING
CAMPAIGN
150 YEARS
OF USJ**



One of the pillars of our new fundraising campaign “**USJ, Aspire for More**”, launched as part of the Saint Joseph University of Beirut’s (USJ) 150th anniversary celebration in 2025, is to achieve “More Modernity.” This initiative aims to acquire essential equipment or replace faulty or obsolete materials in laboratories, care centers, and classrooms across our faculties.

Equipping these spaces with modern facilities is crucial for maintaining our university’s status as a knowledge generator. This initiative is essential for USJ to continue its mission and remain a center of excellence at the forefront of knowledge and technology.

EQUIPMENT FOR THE CENTER FOR RESEARCH AND ANALYSIS (CAR)



The Center for Research and Analysis (CAR) operates within the Faculty of Science at the Saint Joseph University of Beirut. Since its establishment in 1997, CAR has been dedicated to delivering analytical services and expert consulting to both the local and international industrial sectors.

CAR offers a range of services, including sample analysis, industrial inspections and expertise, technical lifelong learning, consulting, and collaborative projects with other laboratories and institutions. The center also includes three research units:

- (i) Research Unit: Agri-Food Technologies and Valorization, focusing on food science and technology research.
- (ii) Research Unit: Environment, Functional Genomics, and Proteomics, focusing on environmental science and functional genomics.
- (iii) Research Unit: Mathematics and Modeling, focusing on mathematical modeling, probability calculations, and risk assessment and management.

CAR collaborates with numerous industries and international partners, such as Clos St Thomas, El Kazzi, Château Kefraya, the Lebanese Army, and the United Nations Industrial Development Organization (UNIDO).

The “Food and Environmental Security” project has been launched to address CAR’s urgent needs. This initiative is divided into three sub-projects aimed at acquiring essential equipment.

Summary of CAR’s Priority Needs

Equipment	Price
Sub-project 1: Microbalance/Soxhlet Extractor/Kjeldahl Analyzer	\$ 100,000
Sub-project 2: Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)	\$ 100,000
Sub-project 3: Microbalance/Rotavap/Spectrophotometer	\$ 72,000
Total	\$ 272,000

FOOD AND ENVIRONMENTAL SECURITY PROJECT

1. PROJECT TITLE

Sub-project 1: Microbalance/Soxhlet Extractor/Kjeldahl Analyzer as part of the "Food and Environmental Security" project. This sub-project is part of a larger initiative aimed at equipping the center at the Faculty of Science.

2. APPLICANT

The Faculty of Science at the Saint Joseph University of Beirut (USJ) and *Fondation USJ*.

3. DESCRIPTION AND OBJECTIVES

Many analyses require precise weighing followed by Soxhlet extraction and Kjeldahl analysis, particularly in the fields of food chemistry and nutrition. The Soxhlet extractor is a continuous extraction method that uses a solvent to repeatedly extract target compounds from a sample. This method is more efficient than other extraction methods, such as maceration, and can be used to extract a wider range of compounds.



Microbalance



Soxhlet Extractor



Kjeldahl Analyzer

Currently, the Center for Research and Analysis (CAR) lacks a Kjeldahl analyzer, representing a significant gap. The Kjeldahl method is a standard technique for determining the total nitrogen content (and thus protein content, where applicable) in various materials and matrices. This includes foods (such as cereals, legumes, dairy products, meat, fish, eggs), animal feed, fertilizers, soils (including agricultural soils, compost), water (both drinking and wastewater), and other materials such as biological and environmental samples.

The Kjeldahl method involves converting nitrogen into ammonia, which is then measured using various techniques. The Kjeldahl analyzer automates this process, enhancing both efficiency and precision. It also allows for a wider range of sample analysis compared to traditional manual methods.

The acquisition of a microbalance, Soxhlet extractor, and Kjeldahl analyzer would significantly bolster CAR's capabilities. These instruments would enable CAR to:

- Enhance Efficiency: Accelerate sample processing and streamline workflows, thus optimizing operational efficiency.
- Improve Accuracy: Deliver more precise results compared to manual or less advanced instruments, minimizing the potential for human error.
- Expand Capacity: Increase the volume of samples that can be analyzed, thereby augmenting CAR's service capacity.
- Advance Research Capabilities: Facilitate in-depth research on nitrogen-related topics, including food safety, environmental pollution, and agricultural productivity, thereby strengthening CAR's research profile.

4. PROJECT OVERVIEW

• Resources

Lebanon has been enduring an unprecedented economic crisis for over three years, and our University has not been spared. To fund the acquisition of these three essential instruments, we seek the solidarity and generosity of USJ friends and alumni, and any donors willing to contribute to the Faculty of Science.

• Financial Assistance Request

100,000 USD (one hundred thousand US dollars).

• Location

This project is taking place in Lebanon, at the Center for Research and Analysis (CAR).

• Target Beneficiaries

The primary beneficiaries include the researchers, collaborators, and PhD candidates at the Center for Research and Analysis at the Faculty of Science at USJ. The new equipment will enable them to conduct more advanced research. Additionally, the improved capabilities will enhance the services provided to CAR's clients, thereby extending the benefits across a broader spectrum.

5. DETAILED BUDGET

This donation will fund the first sub-project of the "Food and Environmental Security" initiative.

Description	Price
Microbalance	\$ 23,000
Soxhlet Extractor	\$ 42,000
Kjeldahl Analyzer	\$ 35,000
Total	\$ 100,000

6. PROJECT RESULTS AND REPORTING

• Results

The impact will be assessed based on the integration of these three instruments and the resulting advancements in research and service quality.

• Transparency

We will send a detailed narrative report outlining the impact of the donation. Additionally, a financial report on the works conducted will be shared.

Annually, we distribute an impact report to the USJ Community, as well as all friends and donors.

For your donation: <https://www.usj.edu.lb/donations/>

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