**The Hebrew University of Jerusalem**

**The Faculty of Agricultural, Food, and Environmental Quality Sciences**

**The Scientific Service Core Facility**

**The Plasma Spectrochemistry (ICP-OES/MS) Laboratory**

**Introduction**

Welcome to the Plasma Spectrochemistry Laboratory, a vital part of the Scientific Service Core Facility. Our laboratory offers analytical support to researchers and students from the Faculty of Agriculture, Volcani Center, and various academic institutions in Israel and abroad. Additionally, we serve as a research and service laboratory, providing elemental analysis to external clients.

With our expertise in sample preparation and ICP analysis, we handle a wide range of sample types including soil, water, biological tissues, foodstuffs, metals and alloys, polymers, pharmaceutical samples, and more.

Our laboratory is equipped with two powerful instruments: the ICP-OES (Inductively Coupled Plasma Optical Emission Spectrometer) and the ICP-MS (Mass Spectrometer). These instruments are capable of determining the total content of elements (both metals and non-metals) in various sample types, each with its unique capabilities.

Whether you require information on the elemental composition of your material (excluding C, H, N, F, and gases), the total or extractable content of metals in soil and plants, or the detection of impurities in your alloy, we are here to assist you. We encourage you to explore our website to gain a deeper understanding of our equipment and capabilities. Feel free to reach out to us through a conversation or by sending us an email (vasiliyr@savion.huji.ac.il ) to discuss your research needs.

We are dedicated to providing comprehensive analytical solutions and look forward to supporting your scientific inquiries.

**Our Services**

• Sample digestion or extraction using a closed microwave-assisted acid digestion method;

• ICP-OES analysis of the following elements: Ag, Al, As, B, Ba, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Se, Si, Sn, Sr, Ti, V, Zn;

• ICP-OES analysis of noble metals: Au, Pd, Pt, Rh, Ru;.

• ICP-MS analysis of the following elements: As, B, Ba, Cd, Co, Cr, Cu, Fe, Hg, Li, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn, U;

• Total iodine analysis in water and solid samples (e.g., plant material, foodstuff) using ICP-MS;

• Water content analysis in solid samples using the PMB Analyzer (at least 3-5 grams of sample required);

• Chloride ion analysis in liquid samples and extracts from solid samples using the M926 Chloride analyzer.

Please refer to the **"FAQ"** page for detailed information on the sample submission process.

**Our Equipment**

A white and red machine

Description automatically generated with low confidence

**ICP-OES PlasmaQuant 9000 Elite, Analytik Jena, Germany**

A picture containing text, home appliance, design, indoor

Description automatically generated

**ICP-MS PlasmaQuant MS Elite, Analytik Jena, Germany**

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| A picture containing home appliance, indoor, wall, microwave  Description automatically generated  Microwave digestion system “Ethos Easy”, Milestone, Italy | A picture containing home appliance, food processor, appliance  Description automatically generated  Microwave digestion system “Discover SPD80”, CEM, USA | Hotblock digestion system with controller, “Environmental Express”, Canada |

*The sample preparation laboratory equipment*

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| PMB moisture analyser, Adam Equipment, UK | Nimbus analytical balances, Adam Equipment, UK | M926 Chloride Analyser, Sherwood, UK |

*Additional instruments*

**Our Team**

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| **Team member** | **Position** | **Phone/mail** |
| Vasiliy Rosen, Ph.D. | ICP Lab manager | 08-948-99-75  vasiliyr@savion.huji.ac.il |
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