An Italian University Chemistry Laboratory is looking for partners to participate in international projects offering expertise in chemical and electrochemical synthesis (small molecules and polymers) and spectroscopic and microscopic characterization.

Summary

Profile type	Company's country	POD reference
Technology offer	**Italy**	**TOIT20250528021**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Research and development cooperation agreement**	**• World**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**28 May 2025** **28 May 2026**	**28 May 2025**

General Information

Short summary

The Italian University Laboratory features expertise in classical organic electro/synthesis of small molecules/polymers of interest in different industrial fields ranging from the production of innovative bioplastics to the semiconductors, batteries and sensors fields, accompanied by several characterization techniques. The aim is to propose sustainable green synthesis methodologies, in line with current challenges regarding the environmental crisis, low-carbon future, technological innovation.

Full description

The Italian University Chemistry Laboratory employes chemical synthesis and more eco-sustainable approaches as electrochemical techniques and electrosynthesis for the development of innovative organic and inorganic materials. Organic and inorganic semiconductors, nanomaterials, organic plastic scintillators, photovoltaics, energy storage, sensors and innovative bio-based, bio-compatible and biodegradable materials for food packaging and bio-engineering devices are only some of the industrial application fields with intense and constant research activity which led to the drafting of various scientific papers and patents of industrial interest. The research activity is supported by the knowledge and interpretation skills of several characterization techniques to study the

electrochemical properties, thermal properties, crystallinity, spectroscopy for material characterization as well as microscopic instrumentation namely Scanning electron microscopy SEM and Scanning Probe Microscopy SPM. The target partners are both universities, industries, start-up, companies interested in participating in international projects and calls to use scientific research and scientific approach to promote the internationalization processes, idea exchanges, scientific cooperation in response to the challenges of our time such as the environmental crisis, digitalization and technological innovation, low-carbon future and reduction of CO2 emissions, green transition in accordance with the rules and deadlines of European Green Deals.

Advantages and innovations

The Italian University Chemistry Laboratory uses chemical and electrochemical synthesis flexibly in a way that addresses requests and specific needs of the ongoing project always being careful to respect the current challenges and maintaining the directions given by EU international policies. Expertise in several material characterization techniques are used to support the scientific activity as FT-IR, SEM, XRD, Raman spectroscopy, Scanning probe microscopies, differential scanning calorimetry, cyclic voltammetry etc etc. In addition, post-processing data and principal component analysis PCA support the production of new innovative materials of strategic interest under a commercial and industrial point of view.

Technical specification or expertise sought

The target partners are universities, industries, start-up, companies interested in participating in international projects and calls. They must offer expertise, tools and exchange of ideas and the possibility of exploring different realities of scientific research, strategy and industrial needs and scientific support in the development of competitive and market-ready materials and devices in the fields of semiconductors and electronics, biomaterials, nanomaterials, life sciences, agrifood, sensors, energy storage and green transition.

Stage of development

Available for demonstration

Sustainable Development goals

- **Goal 7: Affordable and Clean Energy**
- **Goal 13: Climate Action**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 12: Responsible Consumption and Production**

IPR Status

IPR applied but not yet granted

IPR Notes

Partner Sought

Expected role of the partner

The target partners are universities, industries, start-up, companies interested in participating in international projects and calls, internationalization process, exchange of expertise, development of new materials of industrial interest in the above fields of application, proposals for innovative and technological solutions to current global problems. Support for the development of materials and innovative devices overcoming simple basic research and suggestions for problems that can be solved through scientific research and experimentation are requested together with attitude to the expertise exchange, internationalization and training young new potential researchers and figures able to bring together the academic and business worlds.

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **SME 11-49**
- **SME <=10**
- **R&D Institution**
- **Big company**
- **SME 50 - 249**
- **University**

Dissemination

Technology keywords

- **01002012 - Semiconductors**
- **02005003 - Packaging for machines**
- **08001003 - Food Packaging / Handling**
- **05001001 - Analytical Chemistry**

Market keywords

- **08001011 - III/V semiconductor materials (e.g. gallium arsenide)**
- **08001005 - Other fabricated plastics**
- **08001010 - Semiconductor materials (e.g. silicon wafers)**
- **08001006 - Processes for working with plastics**
- **08001020 - Electronic chemicals**

Targeted countries

- **World**

Sector groups involved