

Toxic and Hazardous Waste Management Laboratory

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- **Staff:**

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- **Research Activities:**

- Aerobic and anaerobic treatment of municipal solid waste (MSW)
- Gasification, pyrolysis, and hydrothermal processing of solid waste
- Agro-industrial waste carbonation to produce activated carbon
- Remediation of contaminated soil using biological and physico-chemical methods
- Fate and toxicity of heavy metals in soil
- Sorption of organic and inorganic pollutants in solid mediums
- Recovery of valuable elements from WEEE and modern waste

- **Equipment:**

Gas chromatography/mass spectrometry (GC-MS), spectrometer, elemental analyzer (CHNS-O), industrial gas analyzer, high pressure and temperature reactor, shaker tables, solid waste bioreactors, flow tanks, precision balances, incubators, calorimeter, temperature reactor, furnace, shredder, cyclone, phase contrast microscope, dryer, peristaltic pump, gas detectors, adsorption columns of experiments, microextraction device, output device, ultrapure water, flash point determination apparatus, industrial gas sampling system, photometers, microwave system, mixer, atomic absorption spectroscopy (AAS), fridge, etc.

- **Research Projects:**

- Advanced combustion and corrosion control system for steam boilers in WtE gasification plants (Waste-to-Energy Competitive Research Programme, WtE CRP)
- Monitoring of soil and groundwater quality of ELPE facilities (Hellenic Petroleum S.A.)