



General

The *Laboratory of Water & Soil Resources Quality Control* was found the period 2000-03 and equipped through EU financed educational and research projects as well as with national funds. The available analytical devices and scientific instrumentation supports both academic educational training and research work, in subjects that concern: a) physical, chemical and biological parameters of water quality, b) pollution and contamination determination of drinking, surface, underground and coastal waters, c) sustainable soil management, d) soil & plant tissue analysis, e) soil pathogenicity and pollution.

Facilities

The Laboratory facilities include the following instrumentation together with the full complement of standard laboratory equipment required for water and soil analysis:

- Total Organic Carbon Analyzer for the determination of water contamination,
- Kjeldahl apparatus for the determination of total nitrogen in water and soil samples,
- Atomic Absorption Spectrophotometer for the determination of metal content of soils, plant tissues and waters,
- Flame photometer for the determination of Na, Ca, K concentration
- UV-Vis spectrophotometer,
- Photometer for multiple kit analyses in water samples
- Water, soil and sediment samplers, complete BOD apparatus, COD reactors, turbidity meter, incubation chambers
- Complete unit for structural and compositional soil analysis
- Digital multifunctional device for in situ measurement of water physicochemical parameters of under ground and sea waters (0-20m depth)

Research activities

The Laboratory, in close collaboration with the Department of Fishery, the Department of Water Resources Management, the Municipalities of Chania, educational and research institutions in Greece has corresponded to scientific collaborations in issues of:

- Quality control of physical, chemical and microbiological parameters in underground and surface waters.
- Continuous monitor of qualitative characteristic of potable water sources, the conditions of local water supply networks and coastal seawater.
- Contamination and pollution of water resources.
- Water treatment and bottling technology.
- Potable water filters evaluation.
- Evaluation and exploitation of water resources for irrigation, water supply and recreation.
- Soil analyses for the determination of territorial attributes and the nutritious situation of agricultural grounds.
- Pedology, pathogenicity and pollution of soils
- Sustainable management of water and soil resources.
- Evaluation and re-establishment of terrestrial-aquatic-rural ecosystems.
- Determination of the heavy metals pollution in water and soil resources.

The ongoing research activities taking place in the laboratory include :

- *Multiparametric identification system development for the origin of water resources in karstic basins : Application in the Keritis river basin (Natura 2000-Chania')*". The project is financially supported by ARCHIMEDES action 2.6.1.id, in the frame of EU Operational Programme for Education and Initial Vocational Training (O.P. "Education") one of the Third Community Support Framework's Operational Programmes (2000-2006) in Greece.
- *Study of situation of marine region of Palaiochora of Chania aiming at the rational management of its piscatorial resources.* Financing E.P.AL. Metre 4.4 Action 3 of Ministry of Rural Development and Food. The project is financially supported by EU Operational Programme for Fisheries action 4.4.3., one of the Third Community Support Framework's Operational Programmes (2000-2006) in Greece.
- *Practical Training of undergraduate students - Department of Natural Resources and Environment - TEI of Crete. B and C Phase.* Financed by EU Operational Programme for Education and Initial Vocational Training (O.P. "Education") action 2.4.2.
- *Monitoring of water quality and seawater intrusion rate in Kaina-Vamos drilling.* Financed by Municipality of Vamos.
- *Evaluation of surface and underground water resources of Municipality of Georgioupolis.* Financed by Municipality of Georgioupolis.
- *Microbiological analysis of coastal bathing waters of selected recreational beaches in north Chania.* Providing support by the Anonymous Shipping Company of Crete (ANEK Lines).
- *Water quality monitoring of the lakes Kournas and Agyia.* Financed by local funds
- *Study of the water contamination of the rivers Koiliaris, Tavronitis and Keritis.* Financed by local funds.

Contact us: Professor Dr. Stavroulakis Giorgos
Technological Educational Institution of Crete
Department of Natural Resources and Environment
Romanou 3 - Halepa -73133 - Hania - Crete
Phone number : +30 28210 23012 & 23075 - Fax : +30 28210-23012
email : gstav@chania.teicrete.gr - <http://triton.chania.teicrete.gr/>

