

PROJECT TITLE

High throughput food testing

CLIENT

R&D teams, food industry and academia in need of extra high volume test results at a fraction of time.

OBJECTIVES / ENTREPRENEURIAL OPPORTUNITIES

Provide high throughput testing for the food sector
Realization of innovative food products/procedures is hampered by limited testing resources. Realization of ideas based on multiple prototype food products/procedures is impossible on time and cost

OUR TEAM

Prof. Constantinos Georgiou, management, automated methods

PhD students:
Konstantinos Gliatis, clinical chemistry
Efstathios Vassileiou, soft & hard ware

Collaborators:
Dr. Pangiotis Nouros, oil fluidic analyzers
Dr. Eystratios Komaitis, bacterial fluidics

SOLUTION

Technologies developed for automated, fast & reliable analysis building on fifty years well established clinical analysis

RESULTS

- **Oil oxi-test** developed to access oil primary oxidation deterioration through peroxide value
- **Oil oxi-test second** developed to access secondary oxidation deterioration through anisidine value
- **Oil acid-test** developed to access acidic deterioration through acid value
- **Oil antiox-test** under development for antioxidant potential through radical scavenging assays

Work in progress concerns food quality parameters for oils, drinks, beverages and wines

BENEFITS

- **High throughput:** Up to three thousand tests per day
- **Convenient:** Fully computerized system LIMS for managing sample barcodes. Tests ordered and results transmitted to client at the press of a button facilitating **data accuracy** minimizing human intervention.
- **Superb sensitivity** detecting one hundred lower levels
- **Superb agreement** with official methods used in food
- **Environmental conscious** eliminating use of chlorinated solvent & minimizing all chemicals
- **Full quality control:** Follow up method performance by quality control program specific statistics and Westgard rules
- **Least advantage is low cost:** 2% compared with the official method used