

# **Department: Chemistry**

Group name: Process Analysis and Chemometrics

# Acronym: PATCHEMO

Group Coordinator: Pizarro Millán, Consuelo

ANEP Area/s: Chemistry; Chemical Technology

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#### Website:

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RESEARCH TEAM <u>Researcher</u>	No. of researchers: 4 <u>Department</u>	Professional Category
Pizarro Millán, Consuelo	Chemistry	Full Professor
Esteban Díez, Isabel	Chemistry	Associate Professor
González Sáiz, José María	Chemistry	Full Professor
Tkachenko, Kateryna	Chemistry	Marie S. Curie
COLLABORATORS Collaborators	No. of collaborators: 0 <u>Department</u>	Professional Category



## **Research areas**

Technology and analytical control of industrial processes. Chemometrics. Oenological engineering. Bioanalytics. Chemical analysis. Optimisation and development of new industrial fermentation processes. Development of analytical methodology in environmental and agri-food fields (GC, LC, symbiotic techniques). Development of analytical methodology for sample preparation (MAE, US, SPE, SPME, MEPS).

#### Scientific and technological offer

Development and maintenance of calibrations of instrumental spectroscopic analysis methods (NIR, IR, UV, RAMAN) in products of industrial interest.

Experimental design (development and optimisation of processes using experiment design).

Bioanalysis. Biomarker identification.

Fraud characterisation and detection in food by chemometric techniques.

Characterisation of agri-food products using "fingerprint" techniques. Marker identification.

Study, optimisation and characterisation of win ageing processes.

Optimisation, development and control of industrial fermentation processes.

Optimisation, development and control of industrial processes.

Chemical Analysis (Agri-food, Oenological and Environmental).

Development of analysis methods based on separation techniques such as liquid and gas chromatography (GC-ECD, GC-FID, GC-MS/MS, HPLC-DAD, ESI-UPLC-q-TOF) and sample preparation techniques such as solid phase microextraction, solid phase extraction, microextraction by packaged sorbents, microwave-assisted extraction, and assisted extraction using ultrasound.

## **National and International Relations**

"Grape derivatives" Group. University of Seville, Prof. Ana Troncoso.

"Processing of wine vinegar" Group. University of Córdoba, prof. Isidoro García García.

"Chromatography and chemometrics" Group. University of Santiago de Compostela, Prof. Rafael Cela Torrijos.

"Applied Chemometrics" Group. Universitat Autònoma de Barcelona, Prof. Manel Catalá.

"Analysis in food and the environment" Group. University of Granada, Prof. Luis Cuadros.

"Chemometrics and Qualimetry" Group. Universitat Rovira i Virgili, Prof. Ricard Boqué.

"Flow injection analysis and trace analysis" Group. Universitat de les Illes Balears, Prof. Manuel Miró.

"Analytical chemistry and electrochemistry of materials" Group. University of Valladolid, Prof. Enrique Barrado.

Group led by Dr. François Barja. Department de Botanique el Biologie Vegétale. University of Geneva. University of Genoa, Italy. Prof. Silvia Lanteri.

University of Marseille, France. Prof. Michelle Sergent.

Norwegian Food Research Institute, Norway. Prof. Tormod Naes.

Nijmejen Radboud University, Holland, Prof. Ludgarde Buydens.

Research and Innovation Centre, Edmund Mach Foundation, Italy, Dr. Marco Giordan.

University of Porto, Portugal, Prof. João Almeida Lopes.

