

Cédric CAUDAN

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Date of birth: 12/01/1983



Research Engineer in biotechnology and environmental process

Returning from a one year postdoctoral project at The National Autonomous University of Mexico (UNAM) on the study of Anammox process in extremophiles soil, I seek to integrate a dynamic team working on innovative projects.

Employment:

2014: Postdoctoral project: Demonstration of the presence of Anammox activity in the hypersaline soils of the ex-lake of Texcoco. Departamento de Ecología y Recursos Naturales de la Facultad de Ciencias, Universidad Nacional Autónoma de México.

- Measurement of metabolic activities in soil samples
- gathering of samples in extremophilic regions (hypersaline dry land, semi-arid zones, tropical wet lands)

2008 to 2012: PhD project: Characterization of Extracellular Polymeric Substances (EPS) of granular aerobic biomass: chemical properties and implication in granule cohesion. Laboratoire des Biotechnologies Agroalimentaire et Environnementales.

- Development of an innovative multi-methods extraction methodology
- Identification of the biochemical origin of aerobic granules cohesion
- Construction of a granular cohesion model

September 2006 to February 2007: Six-month internship as a development Engineer in CEVA-Phylaxia in Hungary. Development of a fermentation process (in 2 L, 5 L and 50 L fermenters), setup and use of analysis methods (ELISA test, agglutination test, Electrophoresis, cytotoxicity test)

February to June 2006: Four-month work placement as a development Engineer inside the company Imagne (Bordeaux) on the conservation of dry nucleic acids at room temperature. Optimization of an analysis method to evaluate the conservation of DNA by electrophoresis.

July to August 2004: Two-month work placement in public research on gene transfer techniques using phosphonolipids (Etablissement Français du Sang, Centre Hospitalier Universitaire de Brest). Use of gene transfer vectors, cell culture (strain HeLa and hematopoietic stem cells), study of a potential molecular interaction between phosphonolipid and therapeutic molecules.

Diplomas:

Master of Science (MSc), Biotechnology. Ecole Nationale Supérieure de Technologie des Biomolécules de Bordeaux (ENSTBB, Bordeaux, France).

PhD in Microbial and enzymatic engineering. Paul Sabatier Toulouse III University, (France)

Field of competences:

Analysis of biomolecules: Different types of chromatography (gas chromatography, ion exchange, size exclusion chromatography, hydrophobic interaction chromatography, affinity, expanded bed adsorption). Mono and bidimensional electrophoresis, nucleic acid and polypeptides analysis methods (RMN, mass spectrometry, UV spectrophotometry and use of infrared, crystallography), cell based cytotoxicity assay.

Study of dense bacterial biomolecular aggregate matrix: Use of chemical and mechanical extraction methods, Cohesion measurement using shear test experiment, identification of the origin of aerobic granules cohesion using enzymatic digestion and chemical treatments.

Cell culture: fermentation at different scales (1 to 50 L fermenters) on bacteria and yeast, batch, fed batch, chemostat, human cell culture (strain HeLa and hematopoietic cells). Culture of microorganisms in complex media and soils.

Enzymology: Mechanisms study. Use of enzymes for enzymatic test in a bioreactor.

Genetics: design of vectors and expression of recombinant proteins in E. coli (EGFP), PCR, mutagenesis, mutants selection, gene transfer.

Immunology: advanced study of the immune system, monoclonal antibody synthesis, Western Blot, ELISA test.

Good knowledge and application of Good Laboratory Practice

English: fluent. Read, written, spoken, **First Certificate of English of Cambridge (FCE).**

Spanish: Professional working proficiency

French: Native language.

Data processing: Proficiency with word processing software (Word, Excel, Power Point) and notions of programming.

Additional information:

Practice of theatre.