SYNTHESIS, ELECTROCHEMISTRY, IMAGING & ANALYTICAL SYSTEMS FOR DIAGNOSIS

Dr Fethi Bediou

LABORATORY PRESENTATION

SYNTHESIS: Development and use in automated synthesis of recyclable supported catalysts for the Huisgen reaction and synthesis of libraries of molecules with or without solvent, Study of reactivity and bis-triazole regioselective synthesis, Identification of ligands for proteins by screening on small molecules chip

ELECTROCHEMISTRY: Electrochemical sensors for biological system: Multi sensor arrayed platform for screening biological markers, Molecular materials for electroanalysis and electrocatalysis, Microelectrochemical patterning of surfaces using scanning electrochemical microscopy, Label-free electrochemical detection of microRNAs

IMAGING: Preparation of targeted optical and MR imaging agents, Development of molecular magnetic resonance imaging MRI methods & functional imaging methods for the characterization and therapeutic follow-up of cancer in preclinical

ANALYTICAL SYSTEMS: Development of miniaturized total analysis systems for applications ranging from environmental control to in-vitro medical diagnostics, Characterization of new nano-supports and selective objects: peptide nanotubes, aptamers, nanobodies, Design of original biocompatible nano-objects and quantitative characterization of their non-covalent interactions

FOCUS on our projects

1. Design of a lab-on-a-chip integrating an aptamer-based molecular capture as innovative sample pretreatment strategy for the online identification and quantitation of trace amounts of emerging contaminants in water

2. Design of microchips for the selective electrochemical detection of nitrosothiols (RSNO) in biological fluids

3. Synthesis of small molecule libraries in continuous flow micro reactors

CONTACT DETAILS

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HIGHLIGHTED PUBLICATIONS

Abdelillah AMAR
Chemical Engineer CNRS
Analytical Electrochemistry

Fethi BEDIOU
Senior Researcher CNRS
Analytical Electrochemistry

Miniaturized Devices

Bich-Thuy DOAN
CNRS researcher
Preclinical MRI and MRS

Fanny D’ORLYE
Associate professor Chimie Paristech
Analytical Chemistry - Miniaturized Systems

Hervé GALONS
Professor Paris Descartes
Medicinal Chemistry

Christian GEROGELIN
Associate Professor Chimie Paristech
Medicinal Chemistry, Molecular Screening

Sophie GRIVEAU
Associate professor Chimie Paristech
Electrochemical microsensors

Mathieu LAZERGES
Associate Professor Paris Descartes
Electrochemical DNA-Rasensors

Corinne SULT
Associate Professor Chimie Paristech
Electrochemical microsensors

Anne VARENNE
Professor Chimie Paristech
Analytical Chemistry

Miniaturized devices – Diagnostics

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