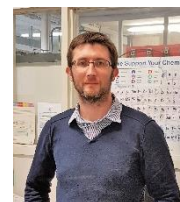


Bastien Doumèche



Associate professor – Habilitate

Université Claude Bernard Lyon 1

Equipe GEMBAS (Génie Enzymatique, Membranes Biomimétiques et Assemblages Supramoléculaires)

UMR 5246 CNRS – ICBMS (Institut de Chimie et Biochimie Moléculaires et Supramoléculaires)

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Bibliometrics :

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Researchgate: https://www.researchgate.net/profile/Bastien_Doumeche

H-Index: 15 (Web of Science, Scifinder, Reaxys)

Author of 28 Articles, 1 review, 1 Book Chapter, 23 oral communications and 33 posters.

At the University Lyon 1 (GEMBAS team of the ICBMS (UMR 5246 CNRS)) since 2006, I developed original research in heterogeneous biocatalysis (especially in the presence of ionic liquids) for the improvement of oxidoreductases, by protein chemistry, directed evolution and more recently cofactor engineering.

Currently, we focus on the development of **unique electrochemical screening methods**. Activities of a broad spectrum of oxidoreductases (dehydrogenases, oxidases, laccases) can be detected using 96 simultaneous electrochemical measurements in less than 1 minute. This system is currently used to identify enzymes optimized for biobatteries, enzyme inhibitors involved in certain cancers or to optimize environmental electrochemical biosensors.

The main topics in this fields are paper-based electrodes, enzyme immobilization, (bio)analytical chemistry together with associated technics (screen-printing and electrode manufacturing, enzymology, molecular biology...)

Education

- 2013** *Habilitation* - Université Claude Bernard Lyon 1, Villeurbanne, France
- 1999-2002** *Doctoral Thesis in Biocatalysis and Enzymology* - Lehrstuhle für Biotechnologie, RWTH-Aachen, Germany

Academic Positions

- Since 2006** **Associate Professor (Habillate since november 2013)**
Génie Enzymatique, Membranes Biomimétiques et Assemblages Supramoléculaires (GEMBAS) ICBMS UMR CNRS 5246, Université de Lyon 1, France
Electrochemical Screening for Bioelectronics - Structure-Activity Relationship of enzymes in ionic liquids
- 2004-2006** **Assistant Professor (Temporary)**
Equipe de Recherche sur les Relations Matrice Extracellulaire Cellules (ERRMECe), EA-1391, Université de Cergy-Pontoise, France - *Gelatine/polysaccharide hydrogels and enzymatic remodelling*
- 2003-2004** **Post-doctoral fellowship**
Groupe Biocatalyse et Chimie Fine (GBCF), UMR-CNRS 6111 (actuellement FRE-CNRS 2712), Faculté des Sciences de Luminy (Aix-Marseille II), France - *Engineering integrated biocatalysts for the production of chiral epoxides and other pharmaceuticals intermediates*
- 1999-2002** **PhD Thesis**
Lehrstuhle Fur Biotechnologie, RWTH-Aachen, Germany
Fundamental phenomenological description and experimental optimisation of a gel-stabilized two-phase system in biocatalysis (Supervision: Prof Dr.-Ing. Winfried Hartmeier)

Scientific Skills

- Protein Chemistry** *Protein expression and purification ; Fluorescence spectroscopy ; Enzyme assays (Colorimetric, electrochemical) ; Covalent modification of proteins; Electrophoresis (SDS-PAGE); Mass spectrometry (Maldi-Tof, ESI); Basic of molecular modelling*
- Organic Chemistry** *Synthesis of small molecules (Ionic liquids, cofactors) and characterization by NMR (¹H, ¹³C, ³¹P) and mass spectrometry.*
- Electrochemistry** *Electroanalysis (Cyclic voltammetry, chronoamperometry, intermittent pulsed amperometry...)*
- Various** *Screen-printed electrode microfabrication on PCB and paper, profilometry...*

Some Scientific Involvements and Achievements

- ❖ Scientific coordinator the regional CEITOP Project: Electrochemical Screening of Inhibitors of Pathogens Tranketolases
- ❖ Partner in the ANR JCJC Transbioscreen (ANR-13-JSV5-0002)
- ❖ Scientific coordinator in several research contract with the Alderon Biosciences company (US)
- ❖ Novozymes Enzyme Assay Scientist Award (2014) for supervised PhD S. Abdellaoui
- ❖ PhD supervision (5 since 2009) and evaluation (8 since 2014)
- ❖ Reviewing activity (More than 300 since 2006) for several journals including Biosensors & Bioelectronics (IF 9.5), Green Chemistry (IF 9.4), Chemical communication (IF 6.1), RSC Advances (IF 3.0), Lab on a Chip (IF 6.9).
- ❖ Member of scientific societies: Bioelectrochemical society, French Chemical society (SCF), French Society of Biochemistry and Molecular Biology (SFBBM); French group of Bioelectrochemistry (GFB), French group of Biocatalysis (CBSO, Board)
- ❖ Member of the scientific board of national and international Conferences (HTCD2020, Biotrans 2023, CBSO 2016)
- ❖ Participation in 5 local and 4 external commissions for associate professors' recruitment since 2009