

Identité / Personal details

Genre / Gender (Femme / Homme / Autre)	Homme
Nom et prénom / Name and first name:	Biard Pierre-François
Pays / Country	France

Poste actuel / Current position

Titre / Function

Senior Lecturer at IUT de Rennes (Rennes 1 University) since 2010

Habilitation à Diriger des Recherches obtained in 2020

Organisme(s) public(s) français / French public organisation(s)

Code RNSR / RNSR code	Organisme / Organisation	Laboratoire / Laboratory	Code unite / Unit code	Code postal / Postcode	Ville / Town
200612270R	CNRS	ISCR INSTITUT DES SCIENCES CHIMIQUES DE RENNES	UMR 6226	35000	Rennes

Autres activités / Other activities

Activités de direction, encadrement, enseignement, activité d'évaluation dans des commissions ou d'expertise scientifique / Executive board, supervision of student, teaching, memberships in panels or individual scientific reviewing activities

- Courses in chemistry and chemical engineering at the University Institute of Technology of Rennes (between 240 and 300 hours/year) for undergraduated students
- Research state
 - H-Index: 13
 - 30 articles already published, 1 article in preparation
 - 1 book chapter
 - 3 Patents
 - 5 PhD students supervised since 2011
 - 11 Master degree students supervised since 2011
 - 2 engineers of research supervised in 2018/2019
 - More than 50 articles reviewed for several journals (Chem. Eng. J., Chem. Eng. Res. Des., Env. Sci. Technol., Chemosphe, AICHE Journal, Etc.)
- Member of the organization committee of the International conference on Applications of Multi-scale Approaches in Environmental chemistry (AMARE 2019)
- Member of the organization committee of the 13th international congress of the GRUTTEE 2020
- Member of the reading committee of the SGFP 2019 congress
- Chairman in several congresses (SFGP 2019, AMARE 2019, GRUTTEE 2020)
- In charge of the communication of the department of chemistry of the University Institute of Technology of Rennes (organization of open doors days, forums, immersion days, etc.)
- In charge of the organization of the scientific seminars of the CIP team (ISC Rennes)
- Member of the Industrial Relationships working group of the ISCR
- Several expertise and industrial contracts in the field of air treatment and ozonation

Postes antérieurs / Previous positions

Début / Start date	Fin / End date	Ville / Town	Etablissement / Organisation	Fonction / Function
01/03/2010	31/08/2010	Rennes	Université de Rennes 1	ATER
01/10/2006	31/09/2009	Rennes and Maisons-Laffitte	Employed by Veolia Environment Research and Innovation	PhD student with a CIFRE grant

Formation supérieure / Education

2020: Diplôme d'Habilitation à Diriger les Recherches (accreditation to conduct research diploma)

2006-2009: PhD in chemistry and process engineering (University de Rennes 1). Doctoral advisor: Pr. Annabelle COUVERT.

2005-2006: Master of Research Degree in Water Chemistry and Microbiology.

2001-2006: French Engineer's Degree in chemistry and chemical engineering (ENSC Rennes).

Productions scientifiques / Scientific productions

Projets de recherche, prix, distinctions, bourses, etc. / Grants, prizes, awards, fellowships, etc.

2018 : Coordinator of a maturation project SATT Ouest Valorisation. 164 k€. Title: Développement d'un procédé de traitement d'air par ozonation catalytique et oxydation thermo-catalytique avec des mousses de verre imprégnées de nanoparticules métalliques.

2013-2016: Coordinator of a PhD grant funded by the University of Science and Technology for Hanoi (Vietnam) to host a vietnamese PhD student for 3 years. Title: Contribution to the development and the intensification of the O₃/H₂O₂ advanced oxidation process.

2012-2014: Participant and supervisor of a work-package of an European Research Council Project. 358 k€ for our lab. Title: Innovative eco-friendly activated carbon filters for harmful vapors & gases VOC Purification (CARVOC program).

2013-2015: Participant of an ANR Project Blanc – SIMI 9. 385 k€. Title: Conception, synthèse et caractérisation de nouveaux absorbants (Liquides Ioniques) pour le biotraitement de COV hydrophobes.

Several grants funded by the University of Rennes 1, the ENSCR or the ISCR for around 50 k€ as coordinator.

5 publications majeures / 5 most relevant publications

Quel est l'apport majeur de cette publication ? / What is the major contribution of this publication?

1	<i>Development of a sustainable heterogeneous catalyst based on an open-cell glass foam support: application in gas-phase ozone decomposition.</i> A. Lejeune, A. Cabrol, R. Lebullenger, A. Denicourt-Nowicki, A. Roucoux, A. Szymczyk, A. Couvert, P. -F. Biard. <i>ACS Sustainable Chem. & Eng.</i> 2020 , <i>8</i> , 2854-2864	This article focused on a new and innovant catalytic support: glassy foams impregnated with zerovalent metallic nanoparticles. the great potential of glassy foams to perform oxidation reactions in gas-phase was demonstrated.
2	<i>Intensification of the O₃/H₂O₂ advanced oxidation process using a continuous tubular reactor filled with static mixers: Proof of concept.</i> P. -F. Biard , T. T. Dang, J. Bocanegra, A. Couvert. <i>Chem. Eng. J.</i> 2018 , <i>344</i> , 574-582. https://hal-univ-rennes1.archives-ouvertes.fr/hal-01774404/document	This article focused on the combination of ozone and hydrogen peroxide to generated radicals in solution. A new configuration was proposed and it was demonstrated a fast ozone consumption coupled to a strong generation of radicals.
3	<i>Efficient Catalytic Ozonation by Ruthenium Nanoparticles Supported on SiO₂ or TiO₂: Towards the Use of a Non-Woven Fiber Paper as Original Support.</i> P. -F. Biard , B. Werghi, I. Soutrel, R. Orhand, A. Couvert, A.; Denicourt-Nowicki, A. Roucoux. <i>Chem. Eng. J.</i> 2016 , <i>289</i> , 374-381. https://hal.archives-ouvertes.fr/hal-01556683/document	This article focused on the development of powder catalysts to decompose ozone in solution toward the generation of radicals. it was demonstrated a fast ozone consumption coupled to a strong generation of radicals.
4	<i>Overview of mass transfer enhancement factor determination for acidic and basic compounds absorption in water.</i> P. -F. Biard , A. Couvert. <i>Chem. Eng. J.</i> 2013 , <i>222</i> , 444-453. https://hal-univ-rennes1.archives-ouvertes.fr/hal-00904227/document	A state of the art about the absorption of acidic and basic compounds in aqueous solution was established in this article.
5	<i>Photocatalytic Degradation of Two Volatile Fatty Acids in Monocomponent and Multicomponent Systems: Comparison between Batch and Annular Photoreactors.</i> P.-F. Biard , A. Bouzaza, D. Wolbert. <i>Appl. Catal., B:</i> 2007 , <i>74</i> , 187-196.	This article emphasized the important role of competitive effects in the photocatalytic oxidation of volatile organic compounds.

Valorisation

brevet, licence, création d'entreprise, développement de logiciel, base de données, prototype, etc. / patent, creation of a start-up, software development, database, prototype, etc.

3 patents