

PhD Projet EIPHI-BFC PRODHYG

Job title	PhD in Physical Chemistry / Material Chemistry
Job type (PhD, Post-doc, Engineer)	PhD
Contract duration (months)	36 months
Qualifications (Master, Ph.D ...)	Master in science (Chemistry, Material science, Physics, Nano Science, ...)
Job hours (full time/ part time)	Full Time
Employer	UBFC Université Bourgogne Franche-Comté
Financing Institutions	Région Bourgogne Franche-Comté & Graduate School EIPHI
Host Laboratory	ICB – UMR 6303
URL Host Laboratory	https://icb.u-bourgogne.fr/
Address Host Laboratory	9 avenue Alain Savary – 21078 Dijon Cedex
Job description	<p>In the framework of an ambitious project devoted to clean hydrogen production, a combined theoretical and experimental PhD is opened in the INTERFACES department of ICB. The aim of this project is to produce hydrogen thanks to water photolysis. More specifically we plan to use the ferroelectricity of BaTiO₃ inserted in an heterojunction with a second oxide to reach higher efficiency for H₂ production through photolysis.</p> <p>During his PhD, the recruited candidate will focus on the study of phenomena occurring at the interface between water and the top oxide and at the interface between the two metal oxides. This analysis will be performed thanks to periodic ab initio calculations but also through experimental analysis. In particular, the PhD student will be involved in the development of a new rack sample devoted to cold measurements through high energy photoemission (HaXPES). This technique will allow in depth analysis and thus a comprehensive study of the different interfaces.</p>
Supervisor(s)	Dr. Céline Dupont (celine.dupont@u-bourgogne.fr) and Pr. Bruno Domenichini (bruno.domenichini@u-bourgogne.fr)

Candidate profile	<p>The selected candidate must have a Master Degree in Science such like in Physical-Chemistry or Material Science but also possibly in Nano-Science or Physics. A background in surface science and material analysis is more than welcome while an experience in DFT calculations will be a huge advantage.</p>
Keywords	<p>Surface science; photoemission; DFT calculations; sustainable energy</p>
Application deadline	<p>30-06-2022</p>
Application Depending on the type of position	<p>Please send the following documents (all in one PDF file) by e-mail to Céline Dupont & Bruno Domenichini celine.dupont@ubfc.fr ; bruno.domenichini@ubfc.fr</p> <ol style="list-style-type: none"> 1) For EU candidates: Copy of your national ID card or of your passport page where your photo is printed. For non-EU candidates: Copy of your passport page where your photo is printed. 2) Curriculum Vitae (may include hyperlinks to your ResearchID, Research Gate Google Scholar accounts). 3) Detailed list of publications (may include hyperlinks to DOI of publications). 4) Letter of motivation relatively to the position (Cover Letter) in which applicants describe themselves and their contributions to previous research projects (maximum 2 pages) 5) Copy of your master degree if already available. 6) Coordinates of reference persons (maximum 3, at least your master thesis supervisor): Title, Name, organization, e-mail. <p>If you have questions regarding the application, please contact the supervisor.</p>