

## PhD Projet EIPHI-BFC THEIA

Job title	PhD Thesis in FEMTO-ST
Job type (PhD, Post-doc, Engineer)	PhD
Contract duration (months)	36 months. Starts on the 1st of October
Qualifications	Master in Physics or Photonics
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	FEMTO-ST
URL Host Laboratory	<a href="https://www.femto-st.fr/fr">https://www.femto-st.fr/fr</a>
Address Host Laboratory	15V Av.Montboucons, 25000 Besançon, FRANCE
Job description	<p>We are pleased to open a Ph.D. position in photonics at CNRS and FEMTO-ST institute. The challenge is to provide new photonic building blocks for AI, biomedical diagnosis, or free space telecommunication systems. Multi-scale LiNbO<sub>3</sub> photonic systems are at the heart of the project, and the objectives are to develop multi-channel photonic waveguides and interconnects. The project lifts the barriers of ultra-dense photonic integration with the advent of active circuits implementing more than 100 channels per <math>\mu\text{m}^2</math>.</p> <p>By proposing new generic integration technologies based on the resources of the MIMENTO technology center, the thesis paves the way towards ultra-dense 3D photonic systems while also addressing crucial challenges in free-space optical telecommunications and biomedical diagnosis.</p> <p>Three industrial partners are committed to the project.</p> <p>Tasks:</p> <ul style="list-style-type: none"> <li>- Technological developments of LiNbO<sub>3</sub> nanoguides and multichannel waveguides</li> <li>- Modelization and testing</li> <li>- On-site characterization</li> </ul>
Supervisor(s)	Nadège Courjal, Optics Dept, FEMTO-ST
Candidate profile	We are looking for applicants with a strong academic background who have completed a five-year master degree (3+2) within Physics, or Photonics preferably acquired recently.

Keywords	Lithium niobate, integrated photonics, optoelectronics
Application deadline	April, 30, 2022
Application Depending on the type of position	<p>Please send the following documents (all in one PDF file) by e-mail to <a href="mailto:nadege.courjal@femto-st.fr">nadege.courjal@femto-st.fr</a> :</p> <p>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.</p> <p>2) Curriculum Vitae (may include hyperlinks to your ResearchID, Research Gate Google Scholar accounts).</p> <p>3) Detailed list of publications (may include hyperlinks to DOI of publications).</p> <p>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)</p> <p>If you have questions regarding the application, please contact the supervisor.</p>