

INTERNSHIP PROGRAM FOR INTERNATIONAL STUDENTS

INTERNSHIP SUBJECT FORM

Name of the Host Laboratory	Laboratoire de chimie Moléculaire
Website of the Host Laboratory	https://portail.polytechnique.edu/lcm/fr/presentation/le-labo-en-bref
Research Group	
Internship Supervisor	Dr Corinne Gosmini
Internship Subject	Cobalt- catalyzed cross-coupling reactions
Student's level	<input checked="" type="checkbox"/> Advanced Undergraduate Students (3 rd or 4 th year) <input checked="" type="checkbox"/> Master's students (1 st or 2 nd year) <input type="checkbox"/> PhD students
Proposed Duration	<input checked="" type="checkbox"/> 3 months <input checked="" type="checkbox"/> 4 months <input checked="" type="checkbox"/> 5 months <input checked="" type="checkbox"/> 6 months
Prerequisites	Organic synthesis
Internship description (max. 15 lines)	<p>Over the past 40 years, the development of transition metal-catalyzed cross-coupling reactions has revolutionized techniques for the formation of carbon-carbon bonds. The cross-coupling reaction class is among the most important in organic synthesis. The development of efficient new carbon-carbon bond forming reactions by metal-catalyzed cross-coupling is still progressing impressively and significant advances have been achieved. Among the different catalysts, the most commonly employed and reliable metals are palladium and nickel. However both these catalysts systems have disadvantages (cost or toxicity). Fortunately, inexpensive alternative catalysts are available such as iron and cobalt. In our laboratory, we have developed cobalt-catalyzed cross-coupling reactions involving organozinc species with various electrophiles and cobalt-catalyzed reductive cross-coupling in order to form C-C bonds.</p> 