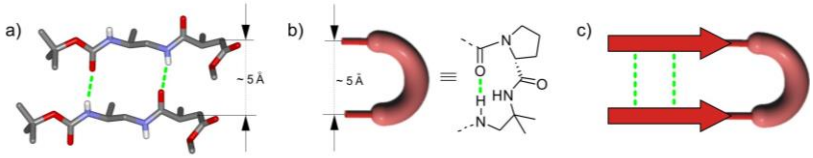
Aquitaine –Karnataka collaboration
Scientific Project for Pre-PhD student exchange

Scientific Proposal

Project Title	**Synthesis of artificial sheet-like structures**	
Scientific domain	Organic & peptide chemistry	
Summary (ca. 10 lines)	The design of biotic and abiotic oligomers with predictable and well-characterized folding patterns -foldamers- has attracted considerable attention over the last fifteen years. The helix in particular is by far the most frequently characterized object, whereas sheet-like structures are rare. Our goal is to rationally design artificial molecular strands able to fold into stable sheet-like structures by formation of intramolecular H-bonds. The student will be involved in the synthesis of the molecules and the structural characterisation of the folding in solution (NMR, CD-UV) and in the solid-state (XRD). 	
Student profile wished	Organic & peptide chemistry	
Supervisor Name	Dr. Christel Dolain	
Supervisor @ & phone	christel.dolain@u-bordeaux.fr	Tel: +33 5 4000 3015
Institute/laboratory/industry (full address)	Institute of Chemistry, Biology of Membranes & Nano-objects, Peptidomimetic Chemistry Group (Dr. Gilles Guichard) 2 rue Robert Escarpit- 33607 Pessac Cedex - FRANCE	
Director Name Institute/laboratory/industry	Dr. Erick Dufourc / Dr. Gilles Guichard	
Director Institute/laboratory/industry @ & phone	e.dufourc@cbmn.u-bordeaux.fr gilles.guichard@u-bordeaux.fr	+33 5 4000 6818 +33 5 4000 3020
Timing & duration for project (give approximate ranges)	Up to 6 months	
Representative References	[1] Guichard, G.; Huc, I. Synthetic foldamers. *Chem. Commun. (Camb)* **2011**, *47*, 5933-41 ; Fischer, L.; Guichard, G. Folding and self-assembly of aromatic and aliphatic urea oligomers: Towards connecting structure and function. *Org. Biomol. Chem.* **2010**, *8*, 3101-3117. [2] Pendem N, Douat C, Claudon P, Laguerre M, Castano S, Desbat B, Cavagnat D, Ennifar E, Kauffmann B, Guichard G. Helix-forming propensity of aliphatic urea oligomers incorporating noncanonical residue substitution patterns. *J. Am. Chem. Soc.* **2013**, *135*, 4884-4892.	

Contact Aquitaine: Erick Dufourc @: e.dufourc@cbmn.u-bordeaux.fr tél: +33 5 4000 6818	Contact Karnataka: Dipankar das Sarma @: sarma@sscu.iisc.ernet.in tél: +91 80 2293 2945

http://www.cbmn.u-bordeaux.fr/aquitaine-karnataka-exchange?lang=2

Contact Aquitaine: Erick Dufourc @: e.dufourc@cbmn.u-bordeaux.fr tél: +33 5 4000 6818	Contact Karnataka: Dipankar das Sarma @: sarma@sscu.iisc.ernet.in tél: +91 80 2293 2945
http://www.cbmn.u-bordeaux.fr/aquitaine-karnataka-exchange?lang=2	