

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

Scientific Proposal

Project Title	Bioorthogonal Chemical Probes for Imaging the Glycome	
Scientific domain	Organic Chemistry; Biochemistry	
Summary (ca. 10 lines)	Cells are covered with complex glycans that participate in a variety of physiological processes, including fertilization, embryogenesis, neurite outgrowth, synapse formation and host-pathogen interactions. In humans, changes in the glycome of cells are associated with developmental disorders and defects. The aim of the project is to develop novel chemical probes to image the glycome in living cells to increase our knowledge of neuroglycobiology but also to develop new diagnostic tools. Experiments will involve the chemical synthesis of the target probes and their utilization in a biological setting ranging from biochemical assays on cell lysates to fluorescence microscopy of living cells.	
Student profile wished	Chemistry; chemical biology	
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Director Name Institute/laboratory/industry	Jean-René Cazalets	
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Timing & duration for project (give approximate ranges)	From 3 to 6 months	
Representative References	<ol style="list-style-type: none"> 1. Friscourt, F.; Fahrni, C. J.; Boons, G-J. (2012) A Fluorogenic Probe for the Catalyst-Free Detection of Azide-Tagged Molecules. <i>J. Am. Chem. Soc.</i>, 134 (45): 18809-18815. 2. Friscourt, F.; Ledin, P. A.; Mbuja, N. E.; Flanagan-Steet, H. R.; Wolfert, M. A.; Steet, R.; Boons, G-J. (2012) Polar Dibenzocyclooctynes for Selective Labeling of Extracellular Glycoconjugates of Living Cells. <i>J. Am. Chem. Soc.</i>, 134 (11): 5381-5389. 	

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