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

Scientific Proposal

Project Title	**Supercritical synthesis of high quality QDs**	
Scientific domain	Materials Science and Chemical Engineering	
Summary (ca. 10 lines)	We have developed a scalable technology using supercritical fluids to prepare high quality zinc blende and würtzite CdSe QDs with narrow size distribution ($\sigma \leq 5\%$), high photoluminescence quantum yields ($45<QY<55\%$) and well-defined crystallinity. Starting from this mastering of QDs processing, we can now go further into the development of more complex materials. The main goal of this project will be to design core-shell QDs with various sizes and morphologies.	
Student profile wished	Material scientist with a good background in chemistry	
Supervisor Name	Samuel Marre	
Supervisor @ & phone	@: samuel.marre@icmcb.cnrs.fr	Tel: +33540006294
Institute/laboratory/industry (full address)	Institut de Chimie de la Matière Condensée (ICMCB-CNRS), 87 Av. du Dr A. Schweitzer, 33608 Pessac Cedex, France	
Director Name Institute/laboratory/industry	Mario Maglione	
Director Institute/laboratory/industry @ & phone	@: maglione@icmcb-bordeaux.cnrs.fr	Tel: +33540008811
Timing & duration for project (give approximate ranges)	Around 6 months at any time	
Representative References	Marre et al., Adv. Mater., 2008, 20 (24), 4830-4834. Gendrineau et al., Angew. Chem. Int. Ed., 2012, 51, 8525-8528. Pinho et al., Lab Chip, 2014, 14, 3843-3849.	

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	