



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

Scientific Proposal

Project Title	Optimization of Lactic acid production from glycerol using <i>Lactobacillus rhamnosus</i>	
Scientific domain	Bioprocess Engineering	
Summary (ca. 10 lines)	<p>Since there is an increase in demand for bioplastics, which are environmental friendly, it would be worthwhile to explore the possibility of production of precursor of bioplastic, i.e. lactic acid from cheaper source. One of the cheaper sources is glycerol, a by-product of Biodiesel industry, which could be used for lactic acid production. Since there is an increase in the production of Biodiesel all over the world, there will be increased production of glycerol also, which will be a major problem for the environment if not utilized properly. Therefore, conversion of surplus glycerol of biodiesel industry into value added product will cut down the cost of Biodiesel production and enhances the economic viability of Biodiesel industry. Lactic acid from glycerol will be produced using <i>Lactobacillus bulgaricus</i> isolated in this lab. Optimization of lactic acid production will be undertaken using various parameters by applying response surface methodology (RSM) and OFAT (one factor at a time) analysis approach.</p>	
Student profile wished	Chemical Engineering or Biotechnology background	
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Timing & duration for project (give approximate ranges)	Around 6 months at any time	
Representative References		
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