



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

Scientific Proposal

Project Title	Smartphone Based Fall Detection and Positioning for Health Care Monitoring	
Scientific domain	Fall Detection, Health care monitoring, Smart Phone	
Summary (ca. 10 lines)	<p>Nowadays elderly people living alone are usually faced lot of problems in their health. The tele-monitoring systems for caring them and they can stay at home alone. If any emergency situation occurs they can be monitored with the help of the proposed system. The tele-health system for remote monitoring of fall detection is discussed here. The algorithm for the fall detection on a smart phone is proposed with the third generation networks and the person is identified if any major change in their position then it is identified and intimated to the corresponding person. The fall detection algorithm is obtained from the angles taken by the electronic compass and the waveform sequence of the tri-axial accelerometer on the smart phone. When a fall event is detected, the algorithm identifies the angles and by the GPS, the information is sent to the corresponding person via the 3G communication network so that the patient can get help immediately. Simultaneously the present data about the patient condition like pulse, temperature and etc. can be recorded in the smart phone.</p>	
Student profile wished	Electronics & Communication Engineering and Bio medical Engineering	
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Timing & duration for project (give approximate ranges)	From 3 to 6 month, any time of the year	
SelectedPublications	<ul style="list-style-type: none"> • Lih-Jen Kau and Chih-Sheng Chen,2015, “A Smart Phone-Based Pocket Fall Accident”, IEEE Journal OF Biomedical and Health Informatics, Vol. 19, No. 1. • M. Kozlovsky et al, 2013, “Personal health monitoring with Android based mobile devices”, MIPRO 2013, , Opatija, Croatia 	

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