

PI name & contact details:	Prof. Graham Cross email: crossg@tcd.ie
School:	School of Physics
<i>Has project been agreed with head (or nominee) of proposed registration school?</i>	
Research Centre / group affiliation:	CRANN
Research group / centre website:	Cross Nanomechanics Group
PI website / link to CV:	http://grahamcross.net
Brief summary of PI research / research group / centre activity (2 or 3 lines max):	
<p>We focus on nanomechanical forming and testing, with an aim to addressing some of the fundamental difficulties in the application of nanoscale manipulation and fabrication to low cost, highly scalable processes.</p>	
Title & brief description of PhD project (suitable for publication on web):	
<p>Surface plasmon trapping via controlled nanostructure formation.</p> <p>Investigate the use of novel and patented nanopatterning techniques developed within the group to the development and application of surface plasmon traps.</p>	
Unique selling points of PhD project in TCD:	
<p><i>projects should offer something that's not available in Brazil – specific equipment, multi-disciplinarity, aspects of structured programme, links with industry, placements, links with other research groups etc.</i></p> <p>The Trinity PhD is a structured PhD and students can access discipline-specific training, as well as generic and transferable skills. All PhD students are eligible to participate in the Innovation Academy which offers a Postgraduate Certificate in Innovation and Entrepreneurship to assist PhD students identify and exploit the value within their research.</p>	
Name & contact details for project queries, if different from PI named above:	
Please indicate the graduates of which disciplines that should apply:	
Physics, engineering	
Ciência sem Fronteiras / Science Without Borders Priority Area:	
<i>Please indicate the specific programme priority area under which the proposed PhD project fits- choose only one (tick box):</i>	
Engineering and other technological areas	<input type="checkbox"/>
Pure and Natural Sciences (e.g. mathematics, physics, chemistry)	<input type="checkbox"/>
Health and Biomedical Sciences	<input type="checkbox"/>
Information and Communication Technologies (ICTs)	<input type="checkbox"/>
Aerospace	<input type="checkbox"/>
Pharmaceuticals	<input type="checkbox"/>
Oil, Gas and Coal	<input type="checkbox"/>
Renewable Energy	<input type="checkbox"/>
Minerals	<input type="checkbox"/>

Biotechnology	
Nanotechnology and New Materials	X
Technology of prevention and remediation of natural disasters	
Biodiversity and Bioprospection	
Marine Sciences	
Creative Industry	
New technologies in constructive engineering	