

PI name & contact details:	Prof. Graham M. Harper	
School:	Physics	
<i>Has project been agreed with head (or nominee) of proposed registration school?</i>	<i>Not yet</i>	
Research Centre / group affiliation:	Astrophysics Research Group	
Research group / centre website:	http://www.physics.tcd.ie/Astrophysics/	
PI website / link to CV:	http://people.tcd.ie/harperg	
Brief summary of PI research / research group / centre activity (2 or 3 lines max):		
<p>Physics based approaches to solving astrophysical problems in stellar magnetized plasmas. The group works on both observational and computational astrophysics, and utilizes state-of-art international observing facilities. Our focus in on red giant and supergiant stars.</p>		
Title & brief description of PhD project (suitable for publication on web):		
<p>Title: Testing theoretical models of stellar mass outflows.</p> <p>Description: Generating signatures of theoretical mass-loss mechanisms for red giant and supergiant stars and comparing them to data gathered by the Hubble Space Telescope and new generations of radio interferometer arrays, JVLA, CARMA. The project is theoretical, observational, and computational.</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, Astrophysics		
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		
Pure and Natural Sciences (e.g. mathematics, physics, chemistry)		x
Health and Biomedical Sciences		
Information and Communication Technologies (ICTs)		
Aerospace		
Pharmaceuticals		

Oil, Gas and Coal	
Renewable Energy	
Minerals	
Biotechnology	
Nanotechnology and New Materials	
Technology of prevention and remediation of natural disasters	
Biodiversity and Bioprospection	
Marine Sciences	
Creative Industry	
New technologies in constructive engineering	