

Application for a:	Incoming Scheme NEWFELPRO Fellowship for senior researcher
Proposal Acronym:	CARBEN
Proposal Title:	Carbon footprint reduction and energy efficiency via development an advanced techniques for Total Site integration
Research area(s):	Information science and Engineering ENG
Research sub-disciplines:	Energy collection, conversion and storage, renewable energy
Category of research:	developmental
Duration in months:	24
Keywords:	carbon footprint, energy efficiency, Total Site, process integration, renewable resources
Abstract:	<p>Reducing CO2 emissions could be achieved by maximising energy recovery and increasing the share of renewables in the primary energy mix. One important development has been Total Site Integration. The current proposal develops an extension of the Total Site methodology covering various customers and incorporating renewable energy sources, accounting for the variability on the supply and demand sides. This is achieved by first applying improvement of heat recovery on Total Site level and an extension of the heat cascade principle and heat storage.</p> <p>The second part of the proposed project focuses on scheduling utility systems for providing heat and power to the extended Total Sites. The main goal is to optimise simultaneously the use of heat recovery, cogeneration of heat and power, renewables and fossil fuels, minimising the carbon footprint and catering for the varying energy demands and renewables availability.</p>
Does this proposal possess any of the sensitive ethical issues detailed in ethical issues table?	No