

**Academic Visit – Dr Judith A Cherni, Imperial College London  
5-19 December 2018**

**Research and academic activities**

I plan to undertake the following activities during my academic visit at the UFR Sciences et Techniques de l'Université de Cergy Pontoise at the Laboratory SATIE.

1) Provision of face-to-face supervision to PhD candidate Simon Meunier on the framework of his PhD project. Simon's PhD focuses on solar pumping systems for improved water access in developing countries; the geographic focus of the study is Burkina Faso. Among other aspects addressed in this PhD, we have developed and implemented a methodology that allows to consider socio-economic impacts of solar pumping systems. Along with Assistant Professor M. Lionel Vido, at University of Cergy-Pontoise, I have supervised Simon's PhD since its beginning in 2016.

2) Initiate next stage work on the outcome of two MSc projects undertaken during 2017/18. The MScs were jointly supervised by Imperial College London, laboratory SATIE and laboratory GeePs. The two projects are related to the above PhD thesis, and are entitled: "Financial and technical assessment of solar versus hand water pumping for off-grid area", and "Water demand and organization and payment schemes for solar pumping systems in emerging countries". I aim to provide guidance to structure and prepare the first drafts of two articles for submission to refereed journals.

3) Delivery of a presentation on my work on "Energy supply for sustainable rural livelihoods. A Multi-Criteria Decision-Support System".

Abstract: Energy supply to the rural poor in developing countries is a complex endeavour that transcends the just installation of energy technologies. A multi-criteria decision-support system to account for social, economic and environmental aspects associated with the introduction of energy systems in rural communities will be discussed. It aims to assist the choice of appropriate energy options for providing sufficient power to fulfil local demands. By modelling various components, it calculates disparities that may arise between current and potential livelihoods after specific energy solutions had been installed, as well as measuring potential trade-offs among alternative livelihoods. The application of the model to the case of a remote Colombian rural community will be presented.