

**Third Seminar on Innovation, Science and Technology for the Energy-Efficient Development:
Green-Sustainable Buildings**

Information Form

1. General information and picture

Last Name: **Meza Benavides**

Name: **Carlos**

Nationality: **Costa Rica**

Current Position: **Senior Postdoctoral Research Fellow**

Name and address of your institution: **The Abdus Salam International Centre for
Theoretical Physics, Trieste, Italia.**



2. Short biography

I am electronic engineer, with a M.Sc. and Ph.D. degree in control and dynamical systems. My research area for the last 8 years has been control and dynamical analysis of power converters for photovoltaic (PV) applications. Nevertheless, recently I have also been involved in various projects related with the analysis of the evolution of the current energy scenario, the role of renewable energy in society and the different technological ways in which a successful decarbonization of the society can be achieved. I have collaborated with the Ministry of Science and Technology of Costa Rica, the Organization of American States and with a European Union FP7 Project, called ENLACE, mainly identifying challenges and opportunities of renewable energy sources in Central America. I am currently a senior postdoctoral research fellow at the Abdus Salam International Centre for Theoretical Physics, where I collaborate with the newly formed renewable energy group and with the applied physics group in topics related with advanced instrumentation, photovoltaic technology and renewable energy system in the developing world. I am also the founder and the first president of the Costa Rican Association of Solar Energy and adjunct professor of the Costa Rica Institute of Technology. Some areas of interest (which I am starting to work on) are interdisciplinary and holistic strategies to improve the energy efficiency mainly in the transportation and the service sector.

3. Impact policy / research

I have studied the power generation scenario in Central America, where I considered the potential energy sources and the different power market models used in each country. In this regards, commissioned by the Italian Agency for the Promotion of European Research, I have elaborated a brief report that identifies the research areas related with renewable energy that can be useful to promote in Central America with the collaboration of the European Union. I am currently analyzing different power generation paradigms based on microgrid / distributed systems that might be more suitable to potentate the use of renewable energy sources in developing regions. I tried to get involved in research projects, carried by interdisciplinary groups, which have a short to mid term positive impact in developing countries.