Dr. Chekired Fathia

Biography:

Dr. Chekired Fathia is a scientific researcher at Solar Equipment Development Unit (UDES)/Renewable Energy Development Center (CDER) since 2009. She received her Engineering degree in Electronic from Jijel University (Algeria) in 2006 and her MSc degree in electronics (Option: Solar Electricity) and her PhD from the National Polytechnic School (ENP), Algiers in 2008 and 2014 respectively. She was promoted to Research Director position in 2022. She is actually the team leader of "application of photovoltaic equipemnt". She worked in several scientific research projects in UDES. Research interests of Dr. Chekired Fathia focus on the optimization of photovoltaic systems and theirs applications. She focuses also in their research works on the development of intelligent energy management systems in the solar houses and their automation. She has authored and co-authored several technical papers in the national and international conferences and journals. She is also a member in several national and international projects.

Plenary title:

"Energy-Efficient Buildings towards Zero Energy Buildings: Challenges and Prospects in Algeria"

Abstract:

The energy demand in buildings has increased rapidly in recent years and exceeded 40% of global consumption. Furthermore, buildings account for one-third of greenhouse gases emissions. According to the statistics, Buildings in Algeria consume about 46 % of the total energy consumption. With 97% of energy consumption based on fossil fuels, Algeria is one of the main emitters of CO_2 in Africa. The integration of renewable energy sources and the improvement of energy efficiency are therefore crucial. In this regard, Algeria as many countries is looking for serious solutions to these energy and environmental issues. Algeria has decided to diversify its energy mix by announcing a 30 % share of renewable energy by 2035. In this context, Highly Energy-Efficient Buildings must be reached taking indispensable measures to reduce energy consumption by improving thermal insulation housing envelope, HVAC systems, high-efficiency lighting and appliances and the introduction of renewable energy to meet their energy needs, favoring the energy produced by installations located on site or nearby. The main challenge, however, is to find the best combination between all these aspects to reach High Energy Efficient Building. The ultimate purpose is to achieve the Zero Energy Buildings, through creating comfortable living conditions inside buildings with the low amount of energy consumption based on the use of renewable energy resources.