COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Tareq Abu Hamed
Type (Academic or Industrial): Academic
Country: Israel
Leadership position in the COST: MC member on CA18224
Working Group in which you are involved: WG3
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Laboratory/Company: Center for Renewable Energy and Energy Conservation

Laboratory/Company info:
The Center for Renewable Energy and Energy Conservation (CREEC) is rapidly progressing to become Israel's "Silicon Valley" in research, development, and technology of renewable energy. Leveraging the Arava Valley's specific climatic conditions and the highest solar radiation levels, CREEC pioneers conduct research in a wide variety of subjects focusing on energy policy, solar fuels, photovoltaic technologies, biomass, wind and solar thermal energy, as well as innovative building construction techniques customized to conserve energy in desert climates. The Center's research supports regional initiatives to test and launch small-scale renewable energy projects including self-cleaning solar panels, biodigester technology, solar-powered desalination, and more. The Renewable Energy Workshop, established in 2015, expands the scope of research and experimentation and enhances the Center's position as a leader in off-grid, small-scale technologies for rural and marginalized communities.

Link to the home page of the Laboratory/Company:
https://arava.org/arava-research-centers/center-for-renewable-energy/

Fields of expertise:
- Solar energy, both thermal and PV
- Solar thermochemical cycles for fuel production
- Solar air heaters
- Innovative techniques to conserve energy in desert climates

5 Main publications or patents:
M Pilloni, TA Hamed, S Joyce. Assessing the success and failure of biogas units in Israel: Social niches, practices, and transitions among Bedouin villages. Energy Research & Social Science, 2020, 61, 101328

TA Hamed, L Bressler. Energy security in Israel and Jordan: The role of renewable energy sources. Renewable energy, 2019 135, 378-389

TA Hamed, A Alshare, H El-Khalil. Passive cooling of building-integrated photovoltaics in desert conditions: Experiment and modelling. Energy, 2019, 170, 131-138

T Abu Hamed, N Adamovic, U Aeberhard, D Alonso-Alvarez. Multiscale in modelling and validation for solar photovoltaics. EPJ photovoltaics, 2018, 9, 10

E Kattan, S Halasah, T Abu Hamed. Practical Challenges of Photovoltaic Systems in the Rural Bedouin Villages in the Negev., J Fundam Renewable Energy Appl, 2018, 8 (258), 2

Collaborations:
Boston University, Penn State University, Munich Technical University, Tel Aviv University, Ben Gurion University, I-greens-Jordan. New Castle University, Groningen University, Oxford University.

Facilities:

- Validation Center for Solar technologies
- Monitoring station for climate data
- Analytical equipments