

Professor Dr Runa T. Hellwig

(Full professor, PD (Privatdozent), Dr.-Ing., Dipl.-Ing.)

Projects, Grants (thematically arranged)

06_Other climates and cultures

2015-2018

Adaption behaviour and adaptive comfort in a traditional building and LEED certified offices in Amman, Jordan

PhD project of Farah Al-Atrash at Karlsruhe Institute of Technology

supervisor and referee for DAAD scholarship

of the PhD project of Assistant Professor Dr.-Ing. Farah Al Atrash (now German Jordanian University, Jordan)

2016



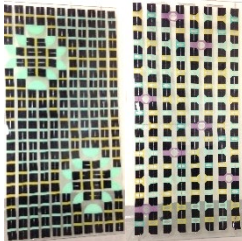
Monitoring and Optimization of a Solar Powered Cooling System using Latent Heat and Battery Storage in an Off-grid alternative holiday resort Loola

contracted by Singaporean company at National University of Singapore/SERIS

project acquisition

to develop a measurement system and a monitoring systems in order to evaluate the energy performance of the systems and their efficiency, to develop a representation of the PV system and the solar powered cooling system and a data visualisation which can be used for educational purposes, to propose optimisation and further development of the system

2014 - 2016



BIPV - Solar Architectural Interface

funded by MND A*Star Grant, Singapore at National University of Singapore/SERIS

cooperation project with WOHA architects, Singapore safety glass and URE

design: WOHA architects, prototype: SERIS

Contribution: analysis of measurement results, prototypes of BIPV design

2008 – 2009

MCME - Maximal Comfort, Minimal Energy – Retrofitting High rise buildings

contracted by a Korean Construction Company at the Fraunhofer Institute for Building Physics

investigation in order to improve the indoor climate and to develop strategies for energetically retrofitting of residential high-rise buildings in South Korea

- 2016- ongoing at NUS/SERIS **Life cycle operational management and efficiency for Building Integrated Photovoltaics (BIPV)**
funded by Singapore government in co-operation with PV industries and Tianjing University, China at National University of Singapore/SERIS
- successful project application
- identifying life cycle costs of BIPV facades for a typical commercial office building, identifying relevant barriers which are relevant for the adoption of BIPV in office building's facades and will provide approaches to overcome these barriers, developing of a toolkit for life cycle costs calculation of BIPV facades, providing recommendations to overcome barriers for the adoption, preparing demonstration the Tianjing Eco-City.
- 2016 **Residential Heat Pump Water Heater Demonstration Project**
contracted by the National Environment Agency at National University of Singapore/SERIS
- project acquisition and concept
- identification of hot water usage and water heater energy consumption, and the demonstration of heat pump water heater energy saving potential in Singapore households
- 2014 - 2015 **Measurement Analysis and Assessment of a Solar Thermal System in a Public Hospital in Singapore**
contracted by an operating company at National University of Singapore/SERIS
- 2014 - 2015 **Measurement Tests of Different Solar Thermal Collectors under Tropical Climate Conditions**
contracted by industry at National University of Singapore/SERIS