



Research Topics in Renewable Energy for 2017

RENEWABLE & SUSTAINABLE
ENERGY STUDIES

Dosent / Lecturer: Dr Arnold Rix		Email: rix@sun.ac.za		
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Fakulteit / Faculty: Engineering		Department / Department: Electrical & Electronic		
Navorsingsarea / Area of Research: Photovoltaic Systems – Renewable Energy				
Algemene beskrywing van navorsingsveld / General description of research area: Solar PV systems				
Lys van onderwerpe/List of topics:		M.Eng. (Structured)	M.Eng. (Research)	Ph.D.
Investigate PV module failure mechanisms during nearby lightning strikes and propose possible mitigation measures.			X	
The development of an in-line I-V curve tracer and the methodology of use that is specifically geared towards soiled PV installations (How should the measured data be interpreted).			X	
Solar PV module mismatch characterisation, the influence of mismatch on system performance and mitigation measures specifically looking at the influence of long term operation and maintenance.			X	
The investigation of the measured low-light performance of PV modules (including bi-facial modules) vs. the currently used equivalent simulation models.			X	
The development of transposition and decomposition models for accurate PV yield modelling in South Africa.				X
Spesifieke voorvereistes / Specific requirements: B.Eng. in Mechatronic or Electrical and Electronic Engineering.				
Befondsing beskikbaar / Funding available: Yes, All MEng (Research) - R100 000 per year for 2 years No - PHD				