



Scatec Solar

Chair in Photovoltaic Systems



RENEWABLE & SUSTAINABLE
ENERGY STUDIES



Research Topics in Renewable Energy for 2018

Dosent / Lecturer: Dr Arnold Rix		Email: rix@sun.ac.za		
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Fakulteit / Faculty: Electrical 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.
1. Design a hybrid standalone grid/generator that could also function in a micro-grid or be grid connected. This power source will consist of PV, batteries and backup from a generator or the grid, final specifications will be determined at a later stage.			X	
2. Bi-facial modules, performance evaluation and investigating where the optimum tilt angles for these modules lies considering different ground reflection values.			X	
3. Investigate and implement a data mining method to extract data from the tremendous amount of data generated daily by the solar PV plant operators every day. This is not only to monitor plant performance, but to also correlate output with different environmental and other conditions that will feed back to the O&M of the plant.			X	
4. Implement a sky monitor to help aid in the prediction of plant output variation due to clouds.			X	
5.			X	
Spesifieke voorvereistes / Specific requirements: B.Eng. in Mechatronic or Electrical and Electronic Engineering.				
Befondsing beskikbaar / Funding available: Yes, Topic 1 - 3 x MEng (Research) - R100 000 per year for 2 years Topic 4 & 5 – Self funded or non Scatec Solar bursary: Come and discuss available topics with me No – PHD Applications: Please email rix@sun.ac.za to discuss your topic of choice and receive the application form.				