



Scatec Solar

Chair in Photovoltaic Systems



RENEWABLE & SUSTAINABLE
ENERGY STUDIES



Research Topics in Renewable Energy for 2022

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, Hybrid power generation, data collection & analytics, forecasting			
Lys van onderwerpe/List of topics:	M.Eng. (Structured)	M.Eng. (Research)	Ph.D.
1. Optimal hybrid power generation system sizing (PV, wind, battery & hydro) (Constrained design optimization to lower electricity costs)		X	
2. Hybrid system performance analysis, forecasting and control of battery storage (Intra-day Solar power forecasting with satellite derived data)		X	
3. Design, build and test an automated testing platform for Bi-facial and floating PV data acquisition devices that uses LORA as communication medium		X	
4. Power to X - investigating the opportunity and impact of using excess renewable energy power to generate hydrogen		X	
5. Wireless PV structure monitoring		X	
6. open topics to be defined in consultation with the student	X	X	X
Spesifieke voorvereistes / Specific requirements: B.Eng. in Mechatronic or Electrical and Electronic Engineering.			
Befondsing beskikbaar / Funding available: Yes, limited funding is available. R120 000 per year for topics 1 - 3.			
Applications: Please email rix@sun.ac.za to discuss your topic of choice and receive the application form.			