CENTRE FOR RENEWABLE &
SUSTAINABLE ENERGY STUDIES

Dosent / *Lecturer:* Prof HJ Vermeulen		**Email:**	vermeuln@sun.ac.za
		Tel:	+27 21 808 4326

Fakulteit / *Faculty:* Engineering	**Department /** *Department:* Electrical and Electronic Engineering

Navorsingsarea / *Area of Research:*
   Wind Energy Modelling, Forecasting and Grid Integration

Algemene beskrywing van navorsingsveld / *General description of research area:*
Application of machine learning to the meso-scale and micro-scale modelling of wind energy resources, including event modelling for high wind speed shutdown and ramping. Development of advanced short-term forecasting models for wind energy generation. Optimisation of the geographical allocation of wind energy capacity in the context of grid support. Modelling of the impacts of variable wind and solar PV generation on system operations, including operating reserves, scheduling, dispatch and ancillary services.

Lys van onderwerpe/*List of topics:*	M.Eng. (Research)	Ph.D.	Funding
Development of Regional Time of Use Feed-in Pricing Incentives to Support Optimal Siting of Wind and Solar PV Sources for Optimal Grid Support		x	
Development of Machine Learning Models for Optimal Scheduling and Dispatch of Flexible Operating Reserves under High Penetration of Wind Energy	x		

Spesifieke voorvereistes / *Specific requirements***: A Masters degree in the relevant scientific field of study is required to enrol for a PhD and an Honours degree in the relevant field is required to enrol for a Masters.**

Befondsing beskikbaar / *Funding available:*