



Eskom Specialisation Centre in HVDC and FACTS at the University of KwaZulu-Natal



EPPEI Eskom Power Plant Engineering Institute



About EPPEI

The Eskom Power Plant Engineering Institute (EPPEI) provides world-class training and research to improve the power plant industry. There are 8 Specialisation Centres at 6 South African partner universities.

EPPEI fosters a dynamic relationship between industry, academia, including universities and universities of technology and the postgraduate student to ensure that there is a balance between applied research that is relevant to industry and research that has academic merit.

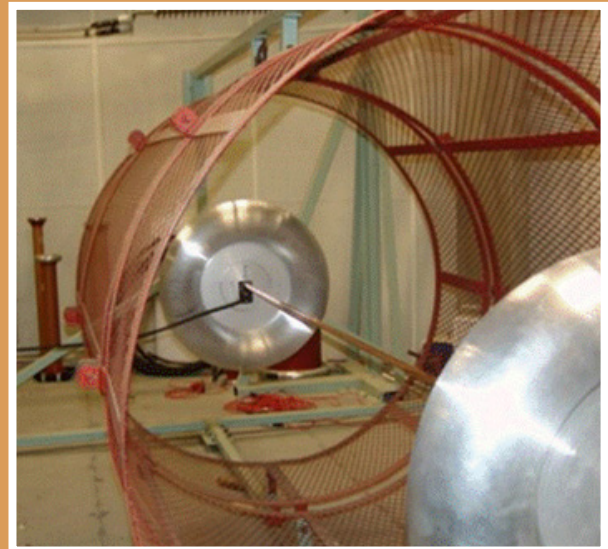
EPPEI encourages the involvement of industry partners in research and innovation. Industrial partners interested in getting involved should contact the EPPEI consortium via any of the consortium partner universities or the consortium management team.

www.eppei.co.za



About the Eskom Specialisation Centre in HVDC and FACTS

The Centre has several dedicated facilities for use by students studying at UKZN including HVDC lab, HVAC lab, smart grids lab, overhead transmission line vibration lab, superconducting lab, and other facilities.



Eskom views high voltage direct current (HVDC) systems as an enabler for future expansion of the existing grid.

There are a number of potential HVDC systems, a bipole connecting the Limpopo province to Gauteng province, a separate bipole through KwaZulu-Natal, and an increase in capacity of the existing system from the Cahora Bassa Dam in Mozambique.

The strategic plan is to develop laboratories, the intellectual competence, and the design ability of Eskom and UKZN in line with the grid capacity upgrade.



Course details

The Centre has rare and unique facilities in the area of high voltage engineering. Applicants can typically study in the areas of:

- HVDC and FACTS simulation
- High voltage hardware design and operation (both DC and AC)
- Smart grids
- Mechanical vibration studies of overhead lines
- Superconducting materials in power systems
- Condition monitoring
- Power electronic converters in power systems
- Big data
- Power system communications
- Real time digital simulation

Taught courses are being developed that will include a Level 8 post graduate diploma in power system engineering. Please check for further updates on this.



“Obtain a research degree from a leading South African university”.



Career opportunities

- The Centre is able to offer MSc(Eng) research degrees and PhD degrees for suitably qualified candidates
- Students can study full time or part time
- See Course Details for possible subject areas
- Applicants are encouraged to contact Centre staff for further details and discussions of potential projects
- Eskom staff are encouraged to participate through the EPPEI programme
- Non-Eskom students are still encouraged. Employer participation is advantageous



How to apply

The minimum requirements for admission are:

- An Engineering or BTech degree (BSc or BEng);
- Must be interested in obtaining an MSc degree or MTech or MEng in HV Engineering (DC) either at a University or a University of Technology (UoT);
- An overall average final year mark of 60% and above.

Candidates need to attend a short preparatory program at the Eskom Academy of Learning prior to registration at a University or UoT. Candidates will be allowed to register at the University or UoT after successful completion of the screening exams.

In preparation for the application prospective students are required to submit the following documentation:

- Certified copies of ID, degree and academic record;
- Short description of your responsibilities and main outputs over the last six months;
- Short resume and motivation for admission into the programme;
- A single colour passport size photo;
- A research topic title and description and possible industrial mentor.

Please contact dorrelld@ukzn.ac.za for more information.



Contact details

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