# Future Energy Systems: High Power Drive Systems

## Project Description

Smart Electrical Grid Systems as it relates to the design of the power electronics in applications such as: rapid chargers and main drive systems for electric vehicles; high power electrical drives; dual inverter drives; coupled inductor and floating capacitor converters; Induction generators for wind power systems; photovoltaic grid systems. The research work will entail practical power electronics, design, build and testing power electronic converters; operating motor/generator drive systems; DSP and FPGA programming for processing analog feedback systems and delivering pulses; WDT modulation signals for controlling power electronics; gathering and interpreting experimental data.

## Faculty-Department

Engineering - Electrical and Computer Engineering

## Desired Field of (Student) Study

Smart Electrical Grids, Future Energy Systems, Power Electronics

## Internship Location

University of Alberta Main Campus - Edmonton

## Number of Internship Positions

2 to 4

## Internship Start Date

January 2, 2018

## Internship End Date

12 weeks after start date

## Are the Dates Flexible?

Yes

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)  
University of Alberta International  
intern@ualberta.ca