

Advanced Electric Machines Research Ltd: Lead Engineer - Electromagnetic Systems

Reports to	Technical Director		
Department	Design	Date	Feb 2018

The Lead Engineer - Electromagnetic Systems will lead the design and development of a series of electric drive systems across a wide range of sectors including passenger car, aerospace, commercial vehicle, off-highway and agricultural vehicles. This will include leading the design and simulation of new motor topologies and power electronics integration and supporting: collaborative project definition; design for manufacture review of new and existing designs; and prototype and production build programmes with both drawing issue and Engineering Change Requests as required. The role requires strong relationships with key stakeholders in the Management Team, Manufacturing Engineering team and Academic and Commercial partner organisations.

RESPONSIBILITIES

- Deliver and evaluate motor design and simulation data for:
 - Permanent Magnet (PM) Machines
 - Switched Reluctance (SR) Machines
 - Hybrid PM and SR Machines
 - Integrated motor and power electronics 'drive' systems
- Define & deliver drive system development programme timing, delivery and cost plans for:
 - Commercial contracts
 - Collaborative research programmes
- Evaluate and recommend relevant design and simulation hardware and software requirements to ensure cost effective high-performance design and analysis capability for motor and drive systems
- Identify and recommend academic and commercial design and development partners and build relevant relationships

- Represent AEMR at Conferences & Exhibitions delivering papers and presentations as appropriate
- Support the design and specification, and the on-going development of prototyping and test facilities to enable the Manufacturing Engineering Team to build and test future motor designs

DESIRED SKILLS and EXPERIENCE

- PhD or equivalent and at least 3 years of experience in electric machine and drive simulation and design including:
- Experience working with academic and industrial partners in multi-disciplinary projects and delivering on time and on budget to a demonstrable high standard
- Strong ideas development skills with the ability to develop and propose ideas and get engagement from both industry and academia
- Strong presentation and communication skills with experience of conference presentation

ATTRIBUTES

- Strong analytical skills with an eye for detail
- Focused, diligent and accurate in specification definition and reporting
- Able to work in cross-business teams and build a rapport with individuals from a variety of backgrounds.
- Adaptable style with the ability to mentor and support younger members of the team
- Capable of working in partnership with other academic and commercial organisations
- Financial and business acumen
- Excellent written and verbal communication skills
- Able to work to tight deadlines in a high pressure environment

About this company

Advanced Electric Machines Research (AEMR) was formed in November 2016 as a spin out from the internationally recognised University of Newcastle Centre for Advanced Electric Drives. AEMR aims to deliver world class motor and drivetrain designs with a focus on cost effective high performance and minimal environmental impact. Proudly based in the North East, AEMR is focused on putting Britain ahead in the global race for the development of new low carbon propulsion technologies aiming to use a UK manufacturing base to export products all over the world. AEMR is also a keen supporter of UK Government and Industry Agencies such as Innovate UK, the Advanced Propulsion Centre and the Automotive Council and will expect senior members of its team to actively promote these initiatives as required. As a design consultancy AEMR will be operating in a high-pressure cost and deadline focused arena and you will need to be comfortable operating in this environment. As a start-up the atmosphere is dynamic and ever changing with multiple areas of focus at any one time. If you're interested in getting involved in building a business from the start then AEMR will offer you the opportunity to thrive.

If you are interested in understanding more about this role, or would like to apply, then please contact, or send your CV and a covering letter to, mike.woodcock@advancedelectricmachines.com and we will get back to you very shortly