Role profile

**Job title**
Research Fellow in Rotordynamic Control with Electromagnetic Machines / Bearings

**Job family and level**
Research & Teaching Level 4

**School/Department**
Faculty of Engineering

**Location**
Jubilee Campus

**Purpose of role**
To support a body of work on controlling the dynamics of rotors that have either magnetic bearings fitted along them or electrical machines or both. The University of Nottingham has a long history of work in this area.

The role-holder will sit within an established research centre (Gas Turbines and Transmissions Research Centre) which runs a wide variety of projects in conjunction with a number of major industrial partners involved in developing high-performance rotating machines. An EPSRC-funded (“Prosperity Partnerships”) research grant is held by G2TRC which involves collaboration with Oxford University and Imperial College and one of the six workpackages within that grant deals specifically with electro-mechanical interactions. This new role will work alongside one existing full-time R.A. (mechanical design) and one part-time R.A. (magnetic analysis) to develop capability and concepts and to validate concepts experimentally.

**Main responsibilities**
(Primary accountabilities and responsibilities expected to fulfil the role)

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<th>Main responsibilities</th>
<th>% time per year</th>
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<td>Fulfil the research and development requirements of the grant as set out in the work plan. Mainly this will concern extending the existing coupled magnetic and mechanical analysis capabilities, seeking-out/developing new concepts and supporting the experimental exploration of those concepts.</td>
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<td>Develop 3-4 high-quality journal papers around advanced methods of exploiting magnetic fields to have a positive influence on rotordynamics.</td>
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<td>Contribute to the broad activities of the group in developing further new concepts, nurturing relationships with industry and engaging in collaborations with relevant leading groups in other institutions.</td>
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<td>Contribute to the supervision of relevant undergraduate projects in academic years 2019-2020 and 2020-2021.</td>
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The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our workforce and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.
Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

**Valuing people**
Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.

**Taking ownership**
Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.

**Forward thinking**
Driven to question the status quo and explore new ideas, supporting the team to “lead the way” in terms of know-how and learning.

**Professional pride**
Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.

**Always inclusive**
Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

- **Line manager**
  - Prof. Seamus Garvey
- **Role holder**
  - Research Fellow
- **Key stakeholder relationships**
  - Colleagues
  - Students