Data Oriented Model Order Reduction of Mechanical Systems

Type of award  PhD Research Studentship

Department  Engineering Maths, ANM, Dynamics and Control Research Group

Scholarship Details  Minimum £15,285 p.a. subject to eligibility status.

Duration  3.5 years

Eligibility  Home/EU applicants only

Deadline  1 October 2020

PhD Topic Background/Description

Applications are invited for a PhD Studentship, starting October 2020 or soon thereafter to study model order reduction techniques that utilise vibration data from mechanical structures. During the study machine learning techniques will be applied to obtain reduced order models.

The project is a collaboration between the University of Bristol and the ETH Zurich and will be jointly supervised by Dr Robert Szalai (Bristol) and Prof George Haller (ETH) http://georgehaller.com. The studentship will be based in Bristol with occasional visits to Zurich.

Further Particulars

Candidate Requirements

Applicants must hold/achieve a minimum of a Masters degree (or international equivalent) in a relevant discipline. Applicants without a Masters qualification may be considered on an exceptional basis, provided they hold a first-class undergraduate degree. Please note, acceptance will also depend on evidence of readiness to pursue a research degree.

Basic skills and knowledge required:

- **Essential**: Knowledge of linear algebra, nonlinear dynamics, and mathematical optimisation. Programming skills to implement complex computer algorithms.
- **Desirable**: Knowledge of functional analysis, and machine learning techniques, such as deep learning.

Scholarship Details

Scholarship covers full UK/EU (EU applicants who have been resident in the UK for 3 years prior to 1st September 2020) PhD tuition fees and a **tax-free** stipend at the current RCUK rate (£15,285 in 2020/21). EU nationals resident in the EU may also apply but will only qualify for PhD tuition fees.
For EPSRC funding, students must meet the [EPSRC residency requirements](http://www.bris.ac.uk/engineering/people/robert-szalai/index.html).

**Informal enquiries**
For questions about the research topic please contact Dr Robert Szalai at [r.szalai@bristol.ac.uk](mailto:r.szalai@bristol.ac.uk)

For questions about eligibility and the application process please contact SCEEM Postgraduate Research Admissions [sceem-pgr-admissions@bristol.ac.uk](mailto:sceem-pgr-admissions@bristol.ac.uk)

**Application Details**
Prior to submitting your application please contact the academic listed to discuss your research proposal and see if it aligns with their current research. No indication of an offer can be made until we receive your completed application.

Shortlisted candidates will be required to provide a 20 mins long presentation about one of their projects (online) and will be interviewed by Dr Szalai and Prof Haller.

To apply for this studentship submit a PhD application using our [online application system](http://www.bristol.ac.uk/pg-howtoapply)

Please ensure that in the Funding section you tick “I would like to be considered for a funding award from the Engineering Mathematics Department” and specify the title of the scholarship in the “other” box below along with the name of the supervisor. Interested candidates should apply as soon as possible.

[Apply now](http://www.bristol.ac.uk/pg-howtoapply)