

Risk of Damage during Strong Wind Events

PhD/Research Collaboration



Background

There are multiple examples that illustrate the risk of damage associated to windborne debris. For instance the storms that occurred over the UK March 2004 lifted large items of street furniture, trees and unsecured items into the air causing serious damage and destruction. During that event one person was killed in Leicester as a result of windborne debris and two died as a direct result of being hit by parts of a tree in Blundeston, near Lowestoft in Suffolk. Thus given the damage that strong wind event can cause to people and infrastructure it is necessary to create ways to mitigate such risk for example by developing prediction models.

Research Proposal

This investigation will focus on the estimation of risk associated to the impact of windborne debris to certain regions within a city. It will build on previous research which enables to estimate flight trajectories of objects of different characteristics. These models have shown that such trajectories are highly dependent on the initial conditions such as the angle of attack of the wind with respect to the object. Therefore a consistent database including objects susceptible to be driven by the wind will be created together with the study of the topology of the target area(s) where the windborne debris can impact.

For further information about the research project contact Dr Pedro Martinez-Vazquez (p.vazquez@bham.ac.uk)

Admission requirements (PhD)

The normal entrance qualification for PhD study is either at least an upper second-class Honours degree, or a first degree of a lower classification, along with an MSc or evidence of substantial relevant industrial experience. Applications for research programmes should be accompanied by:

- Copies of the applicant's degree certificates
- Transcripts of degree results
- Confidential academic references: We prefer references from people who are familiar with an applicant's academic performance, preferably a member of staff from the institution where he or she studied at masters level, and who is familiar with any dissertation work undertaken
- The result of a recent English language test (if appropriate)
- An outline (1000-1500 words) of their proposed research showing:
 - Subject of research
 - The body of ideas or theory that will be used
 - Aim and objectives of the proposed research
 - Methodological approach to be adopted

International students

We accept a range of qualifications from different countries see:
<http://www.birmingham.ac.uk/students/requirements/research/step1.aspx>

How to apply

Contact Admissions Tutor: Professor Miles Tight (m.r.tight@bham.ac.uk).

If you complete our contact form we will respond to your enquiry within two business days. Alternatively, you can contact us on +44 (0) 121 414 4160 or by email: civil-phd@contacts.bham.ac.uk

Search Funding Opportunities at:

<http://www.fapesp.br/en/5427>
<http://www.capes.gov.br/cooperacao-internacional/reino-unido/nottinghambirmingham>
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