

**Naughton REU FSTEM Application 2023: OFFER OF TRAINING FORM SUMMER 2023**

<b>Proposer details:</b>	
Title:	Assistant Professor
Name:	Jennifer Keenahan
Email:	<a href="mailto:Jennifer.keenahan@ucd.ie">Jennifer.keenahan@ucd.ie</a>
Website:	<a href="https://people.ucd.ie/jennifer.keenahan">https://people.ucd.ie/jennifer.keenahan</a>
If your grade does not allow you to supervise students, please supply the name of support PI:	NA

<b>Student required:</b>	
Specify any previous training / experience the student should have:	
Some previous experience with simple data analysis would be beneficial, but not essential	
Study level (3rd year, 4th year)	either
Any other requirements:	no

<b>Traineeship offered:</b>
Brief job description: (please include (1) type of work, (2) what student should hope to achieve at end of the process, (3) who will supervise student on daily basis (post-doc etc.))
<p>Long span bridges are one of the largest manmade structures on the planet. Their long span and relative slenderness make them susceptible to external wind loadings. Bridge users, such as high-sided vehicles, cyclists and pedestrians are also likely to be vulnerable. The risks become even greater with the impacts of <b><i>climate change</i></b>.</p> <p>Traditionally, wind assessments for bridges are completed using wind tunnel testing. A scaled-model of a bridge is placed inside a wind tunnel facility and experiments are conducted to assess the impact of the wind. This research team have been given access to over 20 historical wind tunnel assessment reports for large-scale bridges that have been constructed around the world. This project will interrogate the methods used and the results achieved to determine how robust the process given the realities of worsening climate change.</p> <p>More recently, bridges are being instrumented with sensors to monitor them in the presence of high winds. The research team have access to significant quantities of data pertaining to two large bridges in Europe and there will be an opportunity to analyse this</p>

raw data. This project will support the *sustainable development* of future bridge construction.

The work will be directly supervised by Dr Jennifer Keenahan.

Link to research group or supervisor webpage:

<https://people.ucd.ie/jennifer.keenahan>

Location of lab:

Newstead Block B

**Working hours:** From the end of May to August (specific dates and weekly hours can be agreed between the PI and the student directly over a 10-week period).

Number of Weeks offered:

10 (happy to support longer if needed)

Hours per week:

40 (happy to support the right student with deviations on this)

Earliest Start Date possible:

May (if that's stipulated by the Fellowship?) but happy to facilitate earlier/later start

Latest End Date possible:

August (if that's stipulated by the Fellowship?) but happy to facilitate earlier/later start