

## Project proposal template

### Graduate School studentships

### March 2015

<i>Project title</i>	<input style="width: 95%;" type="text" value="Improving the capacity of thin walled structural steel elements with FRP materials"/>		
<i>First Supervisor</i>	<input style="width: 15%;" type="text" value="Dr"/> ▼	<input style="width: 70%;" type="text" value="Ted Donchev"/>	
<i>Second Supervisor</i>	<input style="width: 95%;" type="text" value="Dr Diana Petkova"/>		
<i>School</i>	<input style="width: 95%;" type="text" value="Civil Engineering and Construction"/> ▼		
<i>Other member of supervisory team (no more than three KU supervisors in total)</i>	<input style="width: 95%;" type="text" value="Prof Mukesh Limbachiya"/>		
<i>Specific requirements beyond 2:1 degree</i>	<input style="width: 95%;" type="text" value="1st class BEng or MSc"/>		

**Project summary**  
**(max 4,000 characters)**

Thin walled steel structures in general and cold formed steel sections in particular are getting fast increasing popularity due to low price, high effectiveness and reduced CO2 footprint. The main obstacle for wider application of such structural elements is the phenomenon of local buckling, appearing in case of concentrated loading.

The proposed project is based on conducted pilot study sponsored by industrial partners (Kingspan), which resulted in promising data for solving this problem.

The project will incorporate wide range of experiments varying different factors and consequent FE modelling and verification. Optimisation of possible ways of applying of FRP materials for this innovative type of hybrid structures will be achieved and further application of proposed methodology will allow for more effective and economical structural solutions for building and other infrastructural projects in the future.

The project is expected to be sponsored by industrial partner Kingspan.

