

## Project proposal template

### Graduate School studentships

### March 2015

<i>Project title</i>	<input type="text" value="Environmental impact of e-cigarettes"/>
<i>First Supervisor</i>	<input type="text" value="Dr"/> <input type="text" value="Gianpiero Calabrese"/>
<i>Second Supervisor</i>	<input type="text" value="Dr Stephen Barton"/>
<i>School</i>	<input type="text" value="Pharmacy and Chemistry"/>
<i>Other member of supervisory team (no more than three KU supervisors in total)</i>	<input type="text" value="Mrs. Ana Marques Gomes"/>
<i>Specific requirements beyond 2:1 degree</i>	<input type="text"/>

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

Action on Smoking and Health (ASH) estimated that there are currently 2.1 million adults in Great Britain using electronic cigarettes. Their tar-free technology promotes their status as 'safer' than conventional cigarettes, hence their booming popularity. While previous studies evaluated their content and impacts on indoor air quality, there is very limited scientific information on the environmental impacts of e-cigarette manufacturing and disposal. A 2010 survey of six e-cigarette models found that none of the products provided disposal instructions for spent nicotine-containing cartridges; a recent study conducted by our research group highlighted the absence of, or the presence of erroneous, disposal instructions and/or pictograms. Some manufacturers claim to "have everything you need to start you off on your way to a cleaner you and a cleaner environment", which may increase their appeal especially in young adults. This studentship aims at evaluating the environmental impacts of e-cigarettes due to their manufacture and disposal. The manufacturing impacts will be evaluated considering the packaging, nicotine extraction methodologies currently employed and their by-products. Additionally, the study will propose a new design of devices with reduced environmental impact in terms of packaging and waste disposal.

