



## 2018 YCCSA SUMMER SCHOLARSHIP PROJECT SUBMISSION

This form is for prospective project supervisors to submit their projects to be included in the YCCSA Summer Scholarships Programme for 2018.

It is the purpose of the YCCSA Summer School that any projects submitted are novel and interdisciplinary in nature.

<b>Date</b>	09/01/2018
<b>Supervisors' Names and Departments / Affiliation and Contact Email</b>	<p>Dr Glenn A Hurst, Department of Chemistry <a href="mailto:glenn.hurst@york.ac.uk">glenn.hurst@york.ac.uk</a></p> <p>Louise Summerton, Green Chemistry Centre of Excellence <a href="mailto:louise.summerton@york.ac.uk">louise.summerton@york.ac.uk</a></p> <p>Dr Jonathan Hook, Department of Theatre Film and Television <a href="mailto:jonathan.hook@york.ac.uk">jonathan.hook@york.ac.uk</a></p> <p>Dr Clementine Beauvais, Department of Education <a href="mailto:clementine.beauvais@york.ac.uk">clementine.beauvais@york.ac.uk</a></p>
<b>Project Title</b>	<i>The Green Formula: Game-based app development for green chemistry in schools</i>
<b>Project Description</b>	<p><i>This novel and highly interdisciplinary project combines expertise from four departments/centres and aims to build upon an existing children's book resource created in-house with contributions from the supervisory team, The Green Formula, by developing a prototype mobile-phone app. Akin to the book, the app will be aimed at secondary school children (aged 12-14) and will be centred around an interactive game designed to teach students about green chemistry in a fun and engaging manner. The student will investigate how various gamification approaches can be utilised as optimal methodologies to enhance student motivation. Through user-centered design processes with input from the supervisory team, the student will design and develop a prototype-app that can be used as an outreach resource to accompany an existing book and to inspire children to get excited about green chemistry. There is significant pre-existing app development expertise in the Department of Chemistry (see references) and as previously, outputs will be disseminated via relevant educational magazines (e.g. FORUM, Education in Chemistry), journal publications (e.g. Journal of Chemical Education, International Journal of Computer-Supported Collaborative Learning) and conferences (e.g. EuroVariety in Chemistry, ACM CHI Conference on Human Factors in Computing Systems). To further enhance the impact of the project, it is intended the app (along with the e-book) will be utilised by learners across the world by making it available on Google Play and Apple App stores. This serves as an excellent opportunity for a student to work in a highly creative team to construct a novel resource with significant impact and wide applicability.</i></p>
<b>Required Skills</b>	<ul style="list-style-type: none"> <li>• <i>strong written and verbal communication skills</i></li> <li>• <i>knowledge/experience of mobile and/or game development using, e.g., the Unity platform</i></li> <li>• <i>knowledge/experience of conducting user-centered/user-experience design processes</i></li> <li>• <i>knowledge/experience of producing media assets using, e.g., the Adobe Creative Suite</i></li> <li>• <i>knowledge/experience of working in a collaborative software development environment</i></li> <li>• <b>No knowledge of chemistry / green chemistry is required</b></li> </ul>
<b>Supervision and Collaboration Arrangements</b>	<p><i>Dr Glenn Hurst and Louise Summerton will provide the student with the subject based content of the game-based app together with advising on the appearance, functionality and usability.</i></p> <p><i>Dr Clementine Beauvais will provide the student and supervisory team with expertise</i></p>

	<p><i>pertaining to the suitability of the content, appearance and gameplay for the target audience.</i></p> <p><i>Dr Jonathan Hook will provide the student with technical expertise in designing and developing a high-quality prototype-app for game-based learning.</i></p> <p><i>All supervisors will be in contact with one another and the student for the duration of this new collaborative project and regular progress meetings will be arranged throughout.</i></p> <p><i>Dr Richard Walker and colleagues in the E-Learning team will be consulted as required.</i></p>
<b>Project Dates</b>	<i>The summer school runs for 9 weeks, starting on Monday, 09 July 2018 and finishing on Friday, 07 September 2018.</i>
<b>Other Information</b>	
<b>References</b>	<p><i>An example of an app in game-based learning we developed in 2017:</i>  <a href="https://play.google.com/store/apps/details?id=com.UniversityOfYork.OrganicFanatic&amp;hl=en">https://play.google.com/store/apps/details?id=com.UniversityOfYork.OrganicFanatic&amp;hl=en</a></p> <p><i>An example of an app developed for admissions in Chemistry in 2016:</i>  <a href="https://itunes.apple.com/gb/app/chemistry-york/id1155539697?mt=8">https://itunes.apple.com/gb/app/chemistry-york/id1155539697?mt=8</a> ,  <a href="https://play.google.com/store/apps/details?id=uk.ac.york.Chemistry&amp;hl=en_GB">https://play.google.com/store/apps/details?id=uk.ac.york.Chemistry&amp;hl=en_GB</a></p> <p><i>An article discussing the value of chemistry apps together with indicating a clear opportunity for the development of a corresponding game-based learning app</i>  <i>Libman, D.; Huang, L. Chemistry on the Go: Review of Chemistry Apps on Smartphones. Journal of Chemical Education. 2013, 90 (3), 320-325.</i></p>

When complete, please email the form to [sarah.christmas@york.ac.uk](mailto:sarah.christmas@york.ac.uk)