



2016 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 2017.

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

Date	06/01/2017
Supervisors' Names and Departments / Affiliation and Contact Email	Dr Glenn Hurst, Department of Chemistry, glenn.hurst@york.ac.uk Dr Jonathan Hook, Department of Theatre Film and Television, jonathan.hook@york.ac.uk Professor Andrew Parsons, Department of Chemistry, andy.parsons@york.ac.uk
Project Title	App Development for Game-Based Learning in Chemistry
Project Description	This highly interdisciplinary project combining expertise in the Departments of Chemistry and Theatre, Film and Television (Interactive Media) aims to develop a prototype mobile-phone app to facilitate game-based learning in chemistry. This exciting and novel project will investigate how e-learning approaches can be utilized to help students develop their understanding of chemical concepts 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 teaching staff and students in the department of Chemistry, the student will design and develop a prototype-app that can be used by Undergraduate students studying Chemistry, Biochemistry and Natural Sciences at the University of York, together with incoming students to aid the school-university transition. The development and preliminary evaluation of the app will provide insights into the design of e-learning applications in Chemistry, and their effectiveness, which 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. Variety in Chemistry Education, ACM CHI Conference on Human Factors in Computing Systems). To further enhance the impact of the project, it is intended the app 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.
Required Skills	<ul style="list-style-type: none"> • strong written and verbal communication skills • knowledge/experience of mobile and/or game development using, e.g., the Unity platform • knowledge/experience of conducting user-centered/user-experience design processes • knowledge/experience of producing media assets using, e.g., the Adobe Creative Suite • knowledge/experience of working in a collaborative software development environment
Supervision and Collaboration Arrangements	Dr Glenn Hurst and Professor Andrew Parsons will provide the student with the subject based content of the game-based app together with advising on the appearance, functionality and usability. Both supervisors will be available to consult for the duration of the project. Dr Jonathan Hook will provide the student with technical expertise in designing and

	<p>developing a high quality prototype-app for game-based learning. All supervisors will be in contact with one another and the student for the duration of the project and regular progress meetings will be arranged throughout. Dr Richard Walker and colleagues in the E-Learning team will be consulted as required.</p>
Project Dates	9 week project: Monday, 10 July 2017-Friday, 8 September 2017
Other Information	
References	<p>An example of one of our previous apps for admissions in Chemistry: https://itunes.apple.com/gb/app/chemistry-york/id1155539697?mt=8 , https://play.google.com/store/apps/details?id=uk.ac.york.Chemistry&hl=en_GB An article discussing the value of chemistry apps together with indicating a clear opportunity for the development of a corresponding game-based learning app Libman, D.; Huang, L. Chemistry on the Go: Review of Chemistry Apps on Smartphones. Journal of Chemical Education. 2013, 90 (3), 320-325.</p>

When complete, please email the form to sarah.christmas@york.ac.uk