2014 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 2014.

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

Date	*28 February 2014*
Main Supervisor's Name	*Dr Briony Thomas*
Main Supervisor's Department	*Design (Leeds), Mathematics and Biology*
Co-supervisors' name(s) and Departments	*Professor Reidun Twarcok (Maths and Biology)* *plus other relevant YCCSA staff*
Project Title	*The Art of Complexity*
Project Description	*This project explores the complexities of scientific form and connects the arts and sciences through the use of geometry as a tool that transcends traditional disciplinary boundaries. The work will involve interdisciplinary work with academics in the physical, biological and mathematical sciences at the Universities of York and Leeds.* *Briony has a background in textile design and continued her research studies in design science. She currently teaches geometry in design at the University of Leeds alongside her creative practice, which involves the exploration of geometric structure and form. As an Associate Fellow at YCCSA, Briony is exploring complexities in science through the visual arts and the concept of interdisciplinarity within higher education.* *Research will draw on a number of colleagues in YCCSA to explore complex natural structures leading to the development of novel visual representations. It is anticipated that themes will include, but not be limited too, quasicrystals, Penrose-type tilings, fractals and polyhedra. These will be explored through the use of a range of virtual and material techniques including digital representation, animation, paper folding, pattern design, laser cutting and prototyping.* *This project will support the development of exhibitions planned for autumn/winter 2014 and the development of resources intended to improve the public awareness and appreciation of scientific developments thorough visual interpretations of complex*

	scientific concepts.
Required skills	*This project is offers opportunities for either science or arts interns.* *An interest in the visual arts is essential, in addition to knowledge in one of the following areas:* *1) Mathematical structure, virology or programming* *2) Interactive media, animation or audio-visual effects*
Project dates	*Monday 14 July 2014 – Friday 12 September 2014.*
Other information	*Briony Thomas is an Associate Fellow at YCCSA and currently on sabbatical from the School of Design at the University of Leeds.*
References	*Meenan EB; Thomas BG (2008) Pull-up Patterned Polyhedra: Platonic Solids for the Classroom. Bridges Leeuwarden: Mathematical Connections in Art, Music and Architecture Tarquin Publications: 109-116.* *http://archive.bridgesmathart.org/2008/bridges2008-109.pdf* *Thomas BG (2010) Viruses and Crystals: Science Meets Design. Bridges Pecs: Mathematical Connections in Art, Music and Architecture Tarquin Publications: 335-340.* *http://archive.bridgesmathart.org/2010/bridges2010-335.pdf* *Thomas BG; Hann MA (2007) Patterned Polyhedra: Tiling the Platonic Solids. Bridges Donostia: Mathematical Connections in Art, Music and Science Tarquin Publications: 195-202.* *http://archive.bridgesmathart.org/2007/bridges2007-195.pdf* *Thomas BG; Hann MA (2007) Patterns in the Plane and Beyond: Symmetry in Two and Three Dimensions. No. 37 in the Ars Textrina series. Leeds: University of Leeds International Textiles Archive.* *http://ulita.leeds.ac.uk/docs/Ars_Textrina/Monographs/Patterns_in_the_Plane.pdf* *Thomas BG; Hann MA (2008) Patterning by Projection: Tiling the Dodecahedron and other Solids. Bridges Leeuwarden: Mathematical Connections in Art, Music and Architecture Tarquin Publications: 101-108.* *http://archive.bridgesmathart.org/2008/bridges2008-101.pdf*

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