2019 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 2019.

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

Date	***8 January 2018***
Supervisors' Names and Departments / Affiliation and Contact Email	*Prof. Susan Stepney*, Computer Science, YCCSA, susan@cs.york.ac.uk *Prof. Richard Law*, Biology/Maths, YCCSA, richard.law@york.ac.uk **Dr. Ana Teixeira de Melo*, Centre for Social Studies, University of Coimbra, Portugal, anatmelo@ces.uc.pt *Dr. Leo Caves*, independent researcher, Portugal, leo.caves@gmail.com *Dr. Phil Garnett*, York Management School, YCCSA, philip.garnett@york.ac.uk Other Supervisors from domains of Philosophy/Sociology and Ecology (tbc) *Primary contact person for more information about the project
Project Title	***What is (in) a relation? An interdisciplinary inquiry and applications on the nature of relations and relational processes***
Project Description	The fact that relations are central to the idea of systems and of complex systems does not constitute novelty. Understanding relations and what is (in) a relation is critical to the modelling and simulation of dynamical complex systems. However, different understandings of the nature of relations can emerge from distinct ontological and epistemological frameworks (e.g. the extent to which relations are considered internal or external to the objects to be related; the extent to which the objects in a relation are considered as "things" vs. processes) and different scientific approaches will reflect different worldviews. If one assumes the world is composed of relations, then it is necessary to recognise that it is also composed of different "types" of relations and that their nature and corresponding properties require investigation. What is the nature of the relations that defines a particular type of system? What properties or defining features of relations sustain different types of systems? Different disciplines incorporate the study of (some type of) relations and use their own terminology. In some disciplines, relations are approached as (given) elements of a system, or a thinking framework, but not necessarily explored in the context of a framework where categories of relations can be understood in terms of their properties or how they relate to each other. In others, the nature of relations is the core target of investigation and typologies of relations may be

	created where a relation in understood in relation (!) to others (e.g. in terms and what is and is not). The languages used to communicate and understand the nature of relations and their effects can constrain or enlarge our capacity to understand and act upon (to establish different relations with) it. From an interdisciplinary investigation of how relations have been conceptualised within and between disciplines it may be possible to abstract a map of relations in the context of different ontological and epistemological frameworks that could promote more productive interdisciplinary dialogues and new understandings of the nature of relations and their investigation in complex systems. A deeper understanding of how things/processes can relate to each other can also illuminate the investigation and practice of interdisciplinarity (e.g. How do/may disciplines relate to each other? What is/constitutes a type of interdisciplinary relation that leads to true novelty or creative solutions?) This project will conduct an interdisciplinary exploration of how relations are conceived and described within and between different disciplines and frameworks. From their systematic comparison, it will build a preliminary typo/topological map and a tentative meta-language that opens new possibilities for thinking about and investigating relations in complex systems, including interdisciplinary relations in ways that may lead to new (types of) interventions.
Required Skills	*Background and/or interest in the Social Sciences, Philosophy, Mathematics or Computer Science, preferably with experience in qualitative analysis or review methods.* *Other skills: Good critical thinking skills, openness to novelty, capacity to integrate, synthesize and communicate (e.g. visualisation method; writing skills) different types of information*
Supervision and Collaboration Arrangements	Ana Teixeira de Melo will be the primary contact for the project. Susan Stepney and Richard Law will be resident supervisors available for direct personal contact, throughout the Summer School duration. Ana Teixeira de Melo and Leo Caves will provide general guidance throughout for the project and coordinate the activities of the student and between the student and supervisors . They will provide online support to the project with a short period of residence (tbc) approximately half-way through the Summer School for intensive work and face-to-face meetings. Skype meetings will be conducted weekly and a web-platform (e.g. twist) will be used for the sharing and coordination of readings, comments and reflections that may be commented by all supervisors and student, as well as to keep a research diary. The web-platforms will be used to foster dialogues between all involved around key literature, collections of materials or synthesis provided by the student. Other collaborators may be invited to participate in the discussions. The written material or transcriptions of the discussions between the supervisors and the supervisors and the student will be used as research material.
Project Dates	*The summer school runs for 9 weeks, starting on Monday, 08 July 2019 and finishing on Friday, 06 September 2019.*

Other Information	The project will allow to rehearse alternative modes of supervision based on online platforms. For additional questions regarding the project contact Ana Teixeira de Melo (cf. above)
References	Melo, A. T. (2018). Abducting. In C. Luria, P. Clough; M. Michael, R. Fensham, S. Lammes, A. Last & E. Uprichard (Eds.). (2018). Routledge Handbook of Interdisciplinary Research Methods (pp. 90-93). London: Routledge Caves, L., & Melo, A. T. (2018). (Gardening) Gardening: A relational framework for complex thinking about complex systems. In Walsh, R., & Stepney, S. (Eds.), (2018). Narrating complexity (pp. 149-196). London: Springer. Carlosi, C., & Graziani, P. (2014). Mereology and the Sciences - Parts and Wholes in the Contemporary Scientific Context Springer. Wildman, Wesley J. 2010. "An Introduction to Relational Ontology." The Trinity and an Entangled World: Relationality in Physical Science and Theology, 55–73.

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