



Office of Education Development  
and Gateway Education

香港城市大學  
City University of Hong Kong

## Science + Technology + Arts (STARTS) Digital Craftsmanship in Art and Design Part I: Chinese Ceramics

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### **Abstract:**

Project-based teaching and learning plays a vital role in the creative education sector. In art and design related courses, such methodology not only brings out more creative, accomplished and independent designers, but fosters innovations and new applications in the field. (Bonwell and Eison, 1991 ; Sivan et al, 2001 ).

This proposal is based on the prestigious European S+T+ARTS initiative (<https://www.starts.eu/>), identifying the values of the Arts, increasingly gaining prominence as a catalyst for an efficient conversion of Science & Technology knowledge into novel products, services, and processes.

This proposal is a collaboration with the University Museum and Art Gallery (UMAG) of the University of Hong Kong and is part of their emerging newly launched Program STARTS (Science, Technology and the Arts).

We are applying for funding to develop a STARTS based teaching methodology in collaboration with the UMAG in the field of Chinese Ceramics. This proposal is anchored to the core curriculum course of the Bachelor of Art and Science (BAS) program, SM3804 Materials and Fabrication.

This projects will allow students to learn and translate traditional craft methods and material fabrication into innovative design methods, new material combinations and digital fabrication methods contextualized in the emerging discipline of Digital Craftsmanship. This research will articulate and apply new forms and material expressions for 3D printing based on the analysis and adaptation of traditional ceramic production procedures. This includes the modification of the toolpath for 3D printers, and new transfer methods from 3D scanned traditional crafted ceramic artefacts to 3D objects and their production specificity in 3D printing.

The proposal is based on the success of a teaching initiative between the PI and the University Museum and Art Gallery, The University of Hong Kong, which saw students of the Postgraduate Taught Program (MFA), SM5316 and Undergraduate course SM3713 work with the museum collection to create a series of complex works based on the ceramic collection, exhibited at the Xinghai Conservatory of Music in 2019.

This investigation will establish a novel form of museum collection. The results of this research, the student's engagement into Digital Craftsmanship in the area of Chinese Ceramics, will be presented as a public exhibition, showcasing the developed tools, material applications, and design methods. To engage a wider public audience of researchers, artists and designers, we will organise a symposium with invited guests from the field of ceramic arts, material science, craft and computer-aided manufacturing.