

## Scientific Project Proposal for International Exchange Student

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**Topic :** Automatic extraction of relief motifs on ceramic sherds

**Supervisors :** Teddy Debroutelle (PhD student), Sylvie TREUILLET (PhD, Ass. Professor)

**Laboratory :** PRISME – Computer Vision & Image Processing team

**Internship period :** From January 15th till May 2018

### Abstract

A large corpus of ceramic sherds dating from the High Middle Ages has been extracted in Saran (the surrounding of Orleans, France). The sherds have an engraved frieze made by the potter with a carved wooden wheel. To facilitate the interpretation and the evaluation of an archaeological ceramic heritage, the ceramic sherds were scanned by a laser scanner into 3D virtual models database. Then, a digital processing was developed to extract the patterns engraved by the potters and to carry out an automatic recognition of the patterns [1]. These relief patterns can be used to date the sherds in order to study the diffusion of ceramic production. One of the problems encountered in recognition is the complex curvature of the sherds. Future work proposes to extract a surface model of the sherds, then to convert the images of extracted repeating pattern into 3D-printed rollers to reconstitute the original engraved wheel.



**Required skills:** good knowledge of programming

### Bibliography

[1] T.Debroutelle & al., Automatic classification of ceramic sherds with relief motifs, *J. Electron. Imaging.* 26(2), March 2017.

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