

PhD in Sciences, PlaNu-ITN

“Roman concrete throughout the empire: composition and strength”

The network

The research group Archaeometry of the department Earth and Environmental Sciences at KU Leuven, participant in the Horizon 2020 MSCA-ETN-ITN project “Training the next generation of archaeological scientists: Interdisciplinary studies of pre-modern **Plasters** and **Ceramics** from the eastern Mediterranean (PlaNu-ITN)” offers a fully funded doctoral position with the above research project, based at the Katholieke Universiteit Leuven in Belgium. This high-profile Innovative Training Network aims at training Early-Stage Researchers to conduct state-of-the-art, science-based research on the provenance, use, and technology of plasters and ceramics, in pre-modern societies in different regions of the eastern Mediterranean. The successful applicant will be admitted to the PhD programme of the Arenberg Doctoral School at KU Leuven, and will receive high quality interdisciplinary training on a broad range of topics in the fields of archaeology and archaeological sciences, and particularly plaster and ceramic analysis. Most of the research will be conducted at KU Leuven, but the successful applicant is expected to travel to partner organisations for further training, including a secondment to the Science and Technology in Archaeology and Culture Research Center of the Cyprus Institute.

The project

Recent studies on Roman concrete, with its unusual durability, longevity and lessened environmental footprint, have been gathering media and industry attention. Roman concrete (*opus caementicium*) was a material used in construction during the late Roman Republic until the final days of the Roman Empire. It was based on a hydraulic binder, a lime-based paste often mixed with volcanic ashes, and applied with aggregates (including pieces of rock, ceramic tile and brick rubble) usually far larger than in the modern equivalent. Some Roman concrete sets underwater, and was extremely useful for maritime or water-related construction. This Phd will investigate the composition of Roman concrete throughout the empire, and investigate its structural strength in various applications, in a research setup to be further developed with the successful candidate.

Expected starting date: 1st of September 2021

Qualifications

The successful candidate is expected to have a Master’s degree in earth science, material sciences, archaeological science or a related field. For the particular research requirements of this fellowship, a degree in geology, mineralogy or engineering will be considered as an advantage.

Good oral and written communication skills in English and the ability to work in an international, interdisciplinary research environment are essential.

Applicants should also refer to additional information about admission requirements to the Arenberg Doctoral School, which can be found on <https://set.kuleuven.be/phd/index.html>

Financial Support ZL36030501

This Marie Skłodowska-Curie Actions (MSCA) ITN offers an competitive and attractive salary and working conditions. The successful candidate will be employed at the host institution, and will receive remuneration in accordance with the MSCA regulations for Early-Stage Researchers. This includes living and mobility allowances, and a family allowance, if the researcher is married or with children.

Funding is available for technical and personal skills training, and for participation in international research events. The exact salary will be confirmed upon appointment. Duration of the contract is 36 months.

Eligibility Criteria

According to the eligibility criteria set by the European Commission and the particular MSCA-ITN-2020 call, the recruited Early-Stage Researchers (ESRs) will have to comply with the following conditions:

1. not have resided in Belgium for more than 12 months in the 3 years immediately before the recruitment date, and not have carried out their main activity (work, studies, etc.) in Belgium. Short stays, such as holidays, are not taken into account;
2. be — at the date of recruitment — an 'early-stage researcher' (i.e., in the first four years of his/her research career and not have a doctoral degree).

Qualified applicants from all countries are welcome to submit an application, provided they meet the eligibility criteria.

Deadline for applications

You can apply for this job no later than April 28th, 2021 via the [online application tool](#) through the host institution. Please also provide:

- a CV, including skills and educational and career trajectory, and your place of residence and place of main activities (work, studies, etc.) in the 3 preceding years (max. 3 pages, font 11 or higher)
- a personal statement, explaining your motivation, also related to the research subject and approach of the PhD project (max. 2 pages, font 11 or higher)
- the name and contact details of two referees who can comment on your skills, experience, and suitability for postgraduate research (referees will only be contacted for candidates invited to interview)

For more information please contact Prof. dr. Patrick Degryse, e-mail: patrick.degryse@kuleuven.be

See also <https://www.kuleuven.be/personeel/jobsite/jobs/60009980>

KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be



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