

PhD Position in Conservation Science

from February 2020 to January 2024



MISSION

We are looking for a highly motivated PhD candidate to participate to a research project, entitled HELIX, investigating metal bioremediation for the preservation of historical metal artworks at the interface of analytical chemistry, microbiology and art conservation (Swiss National Science Foundation grant No. 205121_188755/1). This project focuses on innovative and eco-friendly formulations for the cleaning of altered copper, iron and silver surfaces, in particular of contemporary art and decorative arts. The research team will exploit the metal uptake and fat degradation processes provided by naturally occurring microorganisms to remove the degradation products present on different alloys commonly found in historical objects.

MAIN ACHIEVEMENTS

The PhD candidate will investigate the use of hydrogels amended with specific strains/microbial metabolites for the removal of corrosion products and organic substances. He/she will be first required to deeper investigate metal uptake and fat degraders processes with the support of an experienced technician and advanced technologies. Experiments will be conducted to propose alternative green biocleaning formulations that will be tested on model metal coupons and on contemporary or decorative artworks with emblematic alteration features.

SKILLS REQUIRED

Hold a university Master's degree in materials science, conservation science or microbiology.

Autonomy, organizational and very good communication skills.

Experience in dealing with microorganisms and isolation of metabolites.

Knowledge on metals (identification, corrosion) and gel formulations. Technical analytical skills (including FTIR/Raman microscopy, XRD, SEM-EDS). Some knowledge of French will be an advantage.

WORKING PLACE

Haute Ecole Arc Conservation-Restauration, Neuchâtel (Switzerland) and Laboratory of Technologies for Heritage Materials (LATHEMA), University of Neuchâtel, with stays at Arc'Antique, Nantes, France.

	Schedule of the PhD research stays				
	1 st year	2 nd year	3 rd year	4 th year	whole project
HE-Arc CR	60	30	30	80	50%
LATHEMA	40	20	20	-	20%
Arc'Antique	-	50	50	20	30%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

DOCTORAL ENROLMENT

Institute of Chemistry, University of Neuchâtel (UniNE), Switzerland. The successful candidate will apply to the Faculty of Sciences at UniNE for enrollment in the doctoral programme and will receive his/her doctoral degree from UniNE. For more information about the doctoral programme at UniNE, please see https://www.unine.ch/chim/home/doctorat-phd/doctorate_phd_english_version.html

Application deadline : November 15, 2019

Short-list selection : November 18-22, 2019

Phone interview : November 25 or 27, 2019

Final decision and communication of approval : November 28-29, 2019

QUESTIONS ABOUT THE POSITION

Edith Joseph, edith.joseph@he-arc.ch, main supervisor. For administrative issues related to the work place: Isabelle Rérat, isabelle.rerat@he-arc.ch, human resources delegate.

The application file should include a letter of interest accompanied with a curriculum vitae (with publications and other academic works that the applicant would like to be considered in the evaluation), copies of Diplomas/academic transcripts and work certificates (English translations if they are in another language), and two reference contacts should be sent to Isabelle Rérat, isabelle.rerat@he-arc.ch.