

Caroline BOUVIER

25 years old

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PHD CANDIDATE - LABORATORY OF MOLECULAR AND STRUCTURAL ARCHAEOLOGY LAMS, SORBONNE UNIVERSITY, CNRS

PROFESSIONAL EXPERIENCES

PhD Started October 2018 - Thesis defense expected in September 2021

Laboratory of Molecular and Structural Archaeology (LAMS) - Sorbonne Université, CNRS - Paris (France)

Supervisors Alain Brunelle and Philippe Walter

- TOF-SIMS analysis of materials likely to be found in heritage objects to build a spectral database
- Study of the influence on the spectra of interactions between compounds
- Optimisation of the analytical method for the detection of organic materials in ancient heritage object
- Method applied on samples from several ancient paintings of Old Masters, Roman antique statue

Research internship 7 months

Elliott Group, Department of Chemistry, University of Cambridge - Cambridge (UK)

Supervisor Pr. Stephen R. Elliott

- μ SORS analysis of carbon black glazes to differentiate between layers according to concentration
- Study of the enzymatic action of fig on egg to explain a recipe for tempera with whole egg

Research internship 5 months

Center for Research and Restoration of Museums of France (C2RMF) - Paris (France)

Supervisors Myriam Eveno and Pr. Ludovic Bellot-Gurlet (MONARIS laboratory - Sorbonne Université, CNRS)

- Analysis of oil and lead painting mixtures with vibrational spectroscopic techniques (μ Raman and FTIR)
- Evaluation of the possibility to distinguish components in a mixture of binders

EDUCATION

Master of Science, 2018 - Analytical Chemistry & Materials Science - Sorbonne Université - Paris (France)

Master's degree, 2018 - Chemical science & engineering - Graduate school Chimie ParisTech (ENSCP) - Paris (France)

PUBLICATION

Time-of-Flight Secondary Ion Mass Spectrometry Imaging of Cross Sections from the Bacchanals Paintings of Nicolas Poussin
C. Bouvier, H. Glanville, L. de Viguier, C. Merucci, P. Walter and A. Brunelle

Analytical Chemistry 2021, **93**, 4463-4471

DOI : 10.1021/acs.analchem.0c04471

ORAL COMMUNICATIONS

French Mass Spectrometry Society Youth Club Day (Online) • 12/2020

ToF-SIMS imaging of cross-sections from ancient paintings: how to efficiently analyse organic binders?

10th International Round Table on Ancient Polychromy (Online) German Archaeological Institute, Berlin (Germany) • 11/2020

The polychromy and ax finishing of an Imperial colossal statue from Thougga in the Bardo collection (Tunisia)

Doctoral School Days Sorbonne Université Campus, Paris (France) • 10/2020

ToF-SIMS Imaging of Cross-Sections from Ancient Paintings

IMPC Days Sorbonne Université Campus, Paris (France) • 11/2019

ToF-SIMS imaging of cross-sections from paintings by Nicolas Poussin: extraction bias between different layers

22nd International Conference on Secondary Ion Mass Spectrometry (SIMS 22) Kyoto (Japan) • 10/2019

ToF-SIMS imaging of cross-sections from the Bacchanals paintings of Nicolas Poussin

EXPERIMENTAL SKILLS

Secondary Ion Mass Spectrometry Imaging

TOF-SIMS IV (IONTOF, GmbH) operation

Sample preparation for surface analysis

FT-InfraRed spectroscopy

μ -Raman spectroscopy (μ -SORS)

Laboratory experience in organic chemistry

COMPUTER SKILLS

Origin 6.0

LabSpec

SurfaceLab 7.1 (IONTOF, GmbH)

Adobe Animate

Adobe Illustrator

Toon Boom Harmony

COMMUNICATION

Communication for Student Unions

Science Popularization

French 🇫🇷 ●●●●● Native speaker
English 🇬🇧 ●●●●● Fluent (C1, IELTS 7.5/9)
German 🇩🇪 ●●●●● Intermediate (B2)
Italian 🇮🇹 ●●●●● Notions