



MARIE SKŁODOWSKA-CURIE POSTDOCTORAL FELLOWSHIPS 2023

EXPRESSION OF INTEREST FOR HOSTING MARIE CURIE FELLOWS

HOST INSTITUTION

LAQV-Requimte

RESEARCH GROUP AND URL

Cultural Heritage and Responsive Materials

https://laqv.requimte.pt/research/research-groups/112-cultural_heritage_and_responsive_materials

SUPERVISOR (NAME AND E-MAIL)

Vanessa Otero (van_otero@fct.unl.pt)

SHORT CV OF THE SUPERVISOR

Vanessa Otero's research crosses the disciplinary boundaries of technical art history and conservation science, aiming to increase knowledge of artists' materials by combining the study of their historical production, colour stability and analytical characterisation, and ultimately adding to better conservation and authentication procedures. She is a conservation scientist whose investigation using the Winsor & Newton 19th Century Archive Database has internationally impacted the preservation of artists' materials found in heritage objects [1-5]. An example of its social impact is the reproduction of details of Van Gogh's Sunflowers using pigments resulting from her investigation (see: <https://www.youtube.com/watch?v=vcbn-ndmlcQ>).

She is a Junior Researcher at LAQV-REQUIMTE R&D unit, contract awarded in the 2020 competitive FCT Call to Scientific Employment Stimulus (3rd place) with a project dedicated to an integrated study of the manufacture and stability of madder reds towards their preservation in artworks. Currently, she is the Principal Investigator (PI) of an FCT-funded project (REDiscover - REDiscovering madder colours: Science & Art for the preservation and creation of cultural heritage; @rediscover_2023) and the PI responsible for the research collaboration between the Department of Conservation and Restoration of the NOVA School of Science and Technology (DCR FCT NOVA) and the international company Winsor & Newton COLART Ltd. She is also a task coordinator and team member of two other FCT-funded projects, MAGICA (Magic Lantern - Study, Safeguard, Uses and Reuses in 19th-Century Portugal) and REVIVE (The threads of the past weaving the future: The colors from the Royal Textile Factory of Covilhã, 1764-1850), respectively.

She has an h-index of 17 with 29 papers in peer-reviewed journals and >1700 citations (Scopus), indicating her research's international impact. She has participated in international conferences with 36 oral (including invited talks) and 21 poster communications, having 1 book chapter and 13 published proceedings.

Since 2011, she has collaborated with the DCR FCT NOVA in lecturing courses for BSc, MSc and PhD students. She has been co-supervisor of 3 PhDs (1 complete; 2 ongoing), supervisor of 4 MSc (3 as co-sup.) and several curricular projects. She is co-responsible for the DCR's analytical infrastructure and its financial management. Her multidisciplinary research has enabled her to establish a national and international collaborative network, including renowned institutions such as the Calouste Gulbenkian Museum, the Courtauld Institute of Art and the Politecnico di Milano.

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5 SELECTED PUBLICATIONS

1. Tiago Veiga; Artur J. Moro; Paula Nabais; Márcia Vilarigues; Vanessa Otero*. "A First Approach to the Study of Winsor & Newton's 19th-Century Manufacture of Madder Red Lake Pigments". *Heritage* 6 4 (2023): 3606-3621. <http://dx.doi.org/10.3390/heritage6040192>.

2. Maria Veneno; Paula Nabais; Vanessa Otero*; Adelaide Clemente; M. Conceição Oliveira; M. J. Melo. "Yellow Lake Pigments from Weld in Art: Investigating the Winsor & Newton 19th Century Archive". *Heritage* 4 1 (2021): 422-436. <https://doi.org/10.3390/heritage4010026>.
3. Marta Ghirardello; Vanessa Otero*; Daniela Comelli; Lucia Toniolo; David Dellasega; Luca Nessi; Matteo Cantoni; Gianluca Valentini; Austin Nevin. "An investigation into the synthesis of cadmium sulfide pigments for a better understanding of their reactivity in artworks". *Dyes and Pigments* 186 (2021): 108998. <https://doi.org/10.1016/j.dyepig.2020.108998>.
4. Vanessa Otero; Márcia Vilarigues; Leslie Carlyle; Marine Cotte; Wout De Nolf; Maria J. Melo. "A little key to oxalate formation in oil paints: protective patina or chemical reactor?". *Photochemical & Photobiological Sciences* (2018): <https://doi.org/10.1039%2Fc7pp00307b>.
5. Vanessa Otero; Joana V. Pinto; Leslie Carlyle; Márcia Vilarigues; Marine Cotte; Maria J. Melo. "Nineteenth century chrome yellow and chrome deep from Winsor & Newton™". *Studies in Conservation* 62 3 (2017): 123-149. <https://doi.org/10.1080/00393630.2015.1131478>.

PROJECT TITLE AND SHORT DESCRIPTION

LOOKING AT THE 19TH CENTURY BACKSTAGE CONNECTIONS OF ARTISTS' COLOURMAN WINSOR & NEWTON: HISTORY, SCIENCE & ART

Winsor & Newton (W&N) expresses a perfect match between science and art in the 19th century. The company was founded by William Winsor (1804-1865), a colour chemist, and Henry Charles Newton (1805-1882), a professional artist. William Winsor was assistant to George Field (1777-1854), one of the most important colour chemists in the 19th century, whose work, *Chromatography; or A Treatise on Colours and Pigments, and of their Powers in Painting & c.*, is a fundamental source of information on artists' pigments of this period. However, both W&N's founders were actively involved in developing and improving their products. They rapidly became one of Britain's leading artists' colourmen and, ultimately, worldwide by the end of the 19th century, having supplied iconic painters. The relationship between J. W. Turner (1775-1851) and Winsor is well known, and several artists praised their artists' materials.

The W&N 19th century archive is a unique primary documentary source covering handwritten instructions, diverse workshop notes and shop floor accounts. Since 2006, it has been available as a page-image database comprising digitalised page-images of 85 manuscript books (corresponding to 16.648 page-images) and a digital collection of 47 W&N 19th-century trade and retail catalogues. The investigation carried out at DCR FCT NOVA has proven the exceptional value of the W&N 19th Century Archive Database in providing a unique insight into the company's choices and workshop practices [1-5].

Through archival research, this project will investigate how the relationship between artists and colourmen may have influenced their practices and choices. By combining methodologies of history of science and technology and technical art history, it will explore the W&N Archive Database and provide new insights into W&N's workers, their practices and their relationship with the artists who employed their products. Other British archives (many currently available online), including the W&N archive room and the Courtauld Institute of Art library, will be studied to reinforce this research.

The researcher will integrate the FCT-funded project REDiscover - REDiscovering madder colours: Science & Art for the preservation and creation of cultural heritage (@rediscover_2023), and benefit from its international research network and interdisciplinary team of conservation scientists, technical art historians, historians of science and technology and artists. The project will be developed within the Cultural Heritage thematic line of the Associate Laboratory for Green Chemistry that comprises LAQV-REQUIMTE and VICARTE R&D units (both ranked Excellent by FCT), which aims to promote better access and engagement with cultural heritage and improve its protection, enhancement, and conservation while exploring ways to transfer traditions and knowledge related to art&craft production.

SCIENTIFIC AREA WHERE THE PROJECT FITS BEST*

Social Sciences and Humanities (SOC)