

Presentation Abstracts

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Zinc soaps: current understanding of formation in paintings and association with paint delamination

Full presentation

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The current state of understanding of metal soaps in art, concerning scientific analysis and implications for conservation and treatment, were the focus of a two day conference in Amsterdam in March 2016.

Zinc soaps are emerging as a major concern for many modern and contemporary paint collections and may manifest in a variety of forms including as aggregated lumps, insoluble surface crusts and paint delamination. Zinc soaps may be present as paint additives or have formed from zinc oxide in situ and the incidence is much higher than in those paints explicitly marketed as containing zinc white. A collaborative research project between the Queensland Art Gallery | Gallery of Modern Art (QAGOMA) and QUT into the oeuvre of William Robinson indicates zinc soaps are a contributing factor to incidences of instability in his paintings. This finding links deterioration in Robinson's paintings to a phenomenon affecting paintings by numerous artists worldwide. Continuing Dutch investigations of paint delamination in works by Piet Mondrian has similarly identified high concentrations of zinc soaps at problematic interfaces. Analysis of paintings will be presented to illustrate the characterisation and localisation of zinc soaps in paint samples using a variety of optical, Fourier transform infrared spectroscopy (FTIR) and electron microscopy techniques. Artist interviews, in-depth study of materials and techniques and emerging understanding of the chemistry of zinc soap formation and behaviour in paintings have informed hypotheses of circumstances contributing to their condition. Challenges and current thinking for approaches to the long term conservation of affected works will be discussed.

Gillian Osmond is a paintings conservator at QAGOMA with more than two decades experience following graduation from the University of Canberra (1988). In 2014 she was awarded a PhD from the University of Queensland for her thesis on zinc soap formation in modern artists' oil paints.

Sophie Theobald Clark graduated with first class Honours in Art History (University of Queensland 2011) and a Masters of Cultural Materials Conservation (University of Melbourne 2013). She has balanced private practice with a two-year QUT/QAGOMA collaborative research project on the materials and techniques of William Robinson.