

# GREENART

GREEn ENdeavour in Art ResToration

## PUBLIC TRAINING ON CLEANING

Tate Britain  
Clore Auditorium

MAY 20  
2025



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# GREENART

GR<sup>E</sup>en ENdeavour in Art ResToration

GREENART proposes new solutions, based on green and sustainable materials and methods, and on the elaboration of advanced tools, to preserve, conserve and restore cultural heritage. The main objective is to produce safe and effective solutions for the remedial and preventive conservation of cultural heritage, based on environmentally friendly and low impact materials made from renewable natural sources or recycled waste.

The training organized by the European project GREENART and TATE aims to explore the consortium activities, to spread knowledge generated during the development of the project within academic, professional, potential users and industrial domains in addition to upskill key stakeholders and staff on the use of the novel materials/tools/solutions applied to the conservation of cultural heritage.

## The training focuses on two essential sections:

- Lectures and presentations on the theoretical, research and implementation aspects of the novel materials and solutions
- Demonstrations around the application methodologies and the use of some developed technologies and tools

ORGANISATION: Antonio Mirabile, GREENART project.  
Bronwyn Ormsby, Jane McCree, Annette King, Katey Twitchett-Young,  
Morana Novak, Catherine Yaglicki, Angelica Bartoletti, TATE

PROJECT TITLE: GR<sup>E</sup>en ENdeavour in Art ResToration

ACRONYM: GREENART

STARTING DATE: 1 October 2022

DURATION: 30 September 2025

FUNDED UNDER: Culture, creativity and inclusive society

EU CONTRIBUTION: € 3 826 282,50

## PROGRAM

### 20 MAY 2025

**09:00 – 09:20: Getting together**

**09:20 – 09:30: Welcome, Deborah Potter,**  
Director of Collection Care, TATE

#### SESSION 1

**CHAIR: LOUISE LAWSON,**  
Head of Conservation, TATE

**09:30 – 09:50 Piero Baglioni:**

New “green” and sustainable materials for the wet cleaning of works of art.

**09:50 – 10:10 Camilla H. M. Camargos:**

Nanocellulose-based hydrogels for cleaning cultural heritage surfaces.

**10:10 – 10:30 Athina Georgia Alexopoulou and Penelope Banou:**

Assessing gels for varnish removal on works of art on paper.

**10:30 – 10:50 Chiara Biribicchi:**

The Application of GREENART Cleaning Systems for the Removal of Wax-Based Coatings at LACMA.

**10:50 - 11:05 Q&A,**

**11:05 - 11:20 Coffee break (provided)**

#### SESSION 2

**CHAIR: JULIA NAGLE**

Julia Nagle, Director, Julia Nagle Conservation, London, UK

**11:20 - 11:40 Soraya Alcalá,**

**Silvia Russo and Per Knutås:**

Evaluating new sustainable hydrogels and nanofluids for the removal of multiple varnish layers on an Old Master painting (Video).

**11:40 - 12:00 Morana Novak and Bronwyn Ormsby:**

Scientific research in support of the conservation of Bridget Riley's paintings Fall and Hesitate.

**12:00 - 12:30 Annette King and Katey Twitchett-Young:**

Surface cleaning Bridget Riley's Fall using novel GREENART hydrogels.

**12:30 - 12:50 Q&A**

**12:50 – 14:00 Lunch break (not provided)**

#### SESSION 3

**DEMONSTRATIONS - CHAIR: BRONWYN ORMSBY,**

Principal Conservation Scientist, TATE

**14:00 – 14:20 Piero Baglioni:**

Guidelines for a “greener” selection of solvents.

**14:20 – 14:40 Giovanna Poggi:**

How to apply GREENART hydrogels in conservation practice.

**14:40 – 15:00 Camilla H. M. Camargos:**

How to apply nanocellulose/gelatin hydrogels to remove artificial soil or aged adhesives from smooth or rough mock-up surfaces.

**15:00 – 15:15 Q&A**

**15:15 – 15:35 Coffee break (provided)**

#### SESSION 4

**DEMONSTRATIONS - CHAIR: ANTONIO MIRABILE**

Independent Paper Conservator, Paris, France

The following demonstrations will be live-streamed from the painting conservation studio to the auditorium.

**15:35 – 15:55 Giovanna Poggi:**

GREENART nanofluids for the removal of detrimental layers from artworks.

**15:55 – 16:15 Penelope Banou:**

Varnish removal from historical black and white prints using GREENART organogels.

**16:15 – 16:35 Annette King, Katey Twitchett-Young and Morana Novak:**

GREENART hydrogels for the removal of accumulated soiling from painted surfaces.

**16:35 – 17:00 Q&A**

## PRACTICAL INFORMATION:

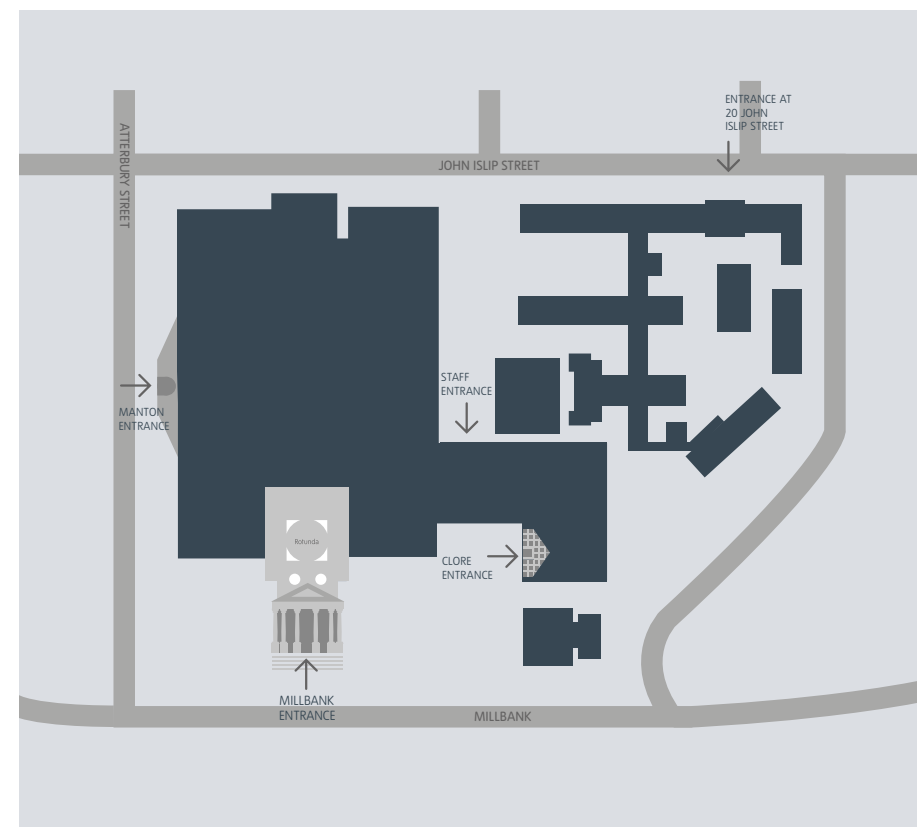
#### TATE BRITAIN

Millbank  
SW1P 4RG

The staff entrance is accessed via John Islip Street, located at the back of Tate Britain.

#### TRANSPORT

- **By Underground:** Pimlico (Victoria Line - 600 meters approx.), Vauxhall (Victoria Line - 850 meters approx.), Westminster (Jubilee, District and Circle Lines).
- **By Bus:** A number of buses service the area, including the 2, 3, C10, 36, 77A, 88, 159, 185. By train: Vauxhall and Victoria
- **By Car:** There is a limited amount of pay and display parking in the streets surrounding Tate Britain. Spaces are free at weekends and after 18.30.



## ABSTRACTS AND SHORT CV

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## WELCOME

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# Welcome: Deborah Potter

**Director of Collection Care, TATE, London, UK**

**Deborah Potter** brings 30 years' experience in the museums and galleries sector across a range of organisations, with over 15 years at Tate and is a champion of leadership, collection care practice and environmental sustainability. Deborah is Director of Collection Care at Tate, leading the division in our mission to manage and care for Tate's continually evolving collections and deliver Tate's programme across our multi-site, international operation. Through these activities, the division plays a key role in safeguarding Tate's public reputation, generating income and maintaining financial sustainability. The Collection Care Division comprises of Collection Management, Conservation, Library, Archive & Records Management, and Business Administration.

ABSTRACTS AND SHORT CV

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SESSION 1

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## Chair: Louise Lawson

**Head of Conservation, TATE, London, UK**

**email:** [louise.lawson@tate.org.uk](mailto:louise.lawson@tate.org.uk)

**Louise Lawson** is Tate's Head of Conservation. In this role she is responsible for the leadership and strategic direction, development, and delivery of Conservation at Tate. She works closely with the Conservation Management Team across a range of programme streams, activities, and projects. Louise has over twenty five experience in Conservation having worked across a range of museums and galleries. She has a strong background in conservation leadership and management, with a focus on time-based media artworks, having led Tate Time-Based Media Conservation team 2011-2021. Louise is currently partner investigator in Establishing Tates Conservation & Heritage Science Archive (funded via RICHeS 2024-2026) working closely with Conservation Science and Tate RICHeS team. Her recent research is focused on the conservation of performance and dance-based artworks as partner investigator in Precarious Movements: Choreography and the Museum (2021-2024).

## Piero Baglioni<sup>+</sup>

Chemistry Department & CSGI – University of Florence, Italy

<sup>+</sup> Presenting and corresponding author

email: baglioni@csgi.unifi.it

### **New “green” and sustainable materials for the wet cleaning of works of art**

Traditional cleaning methodologies, based on classical solution and polymer chemistry, only grant limited control of the cleaning interventions, and often involve toxic or non-environmentally friendly compounds. Alternatively, colloids and soft matter provide valuable and safe solutions like gels and nanostructured fluids. The new methodologies work on different physico-chemical mechanisms, such as detaching/dewetting, to selectively remove unwanted layers in sustainable and cost-effective interventions. In the framework of the GREENART project, novel “green” and sustainable gels and cleaning fluids were developed, selecting the best systems as a new sustainable platform of tools for conservators. Systems like “twin-chain” polyvinyl alcohol gels, decorated with bio-derived molecules, were assessed in the cleaning of masterpieces. The gels can be loaded with water or different water-based cleaning fluids. Particular attention was dedicated to “green” chemistry systems, using low-toxicity solvents or bio-based/waste materials to build gel networks.

**Piero Baglioni** is Emeritus Professor of Physical Chemistry in the Department of Chemistry at the University of Florence. He is on the editorial/advisory boards of several international journals and a member of the scientific board of several national and international institutions and societies. He is the author of more than 550 publications and 27 patents in the field of colloids and interfaces, and a pioneer in the application of soft matter to the conservation of Cultural Heritage.

# Camilla H. M. Camargos<sup>+1</sup>, Isabella A. Silva<sup>2</sup>, and Camila A. Rezende<sup>2</sup>

<sup>1</sup> Federal University of Minas Gerais (UFMG), Belo Horizonte – MG, Brazil

<sup>2</sup> University of Campinas (UNICAMP), Campinas – SP, Brazil

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## Nanocellulose-based hydrogels for cleaning cultural heritage surfaces

We are developing bio-based hydrogels for the cleaning of cultural heritage surfaces using plant-derived nanostructures—specifically cellulose nanofibrils (CNF)—extracted from sugarcane bagasse, a widely available agro-industrial residue in Brazil. Cellulose is an abundant, cost-effective, renewable, and biodegradable material with remarkable amenability for chemical functionalization and compatibilization. CNF enhances the mechanical properties and optical transparency of hydrogels formulated with other green, sustainable biopolymers, enabling tailored formulations to address requirements of controlled, selective cleaning protocols. Our approach focuses on designing and validating flexible hydrogel networks based entirely on green biopolymers. We are investigating: (1) chemically crosslinked gelatin/CNF hydrogels with tunable water retention capacity (swelling degree) and satisfactory compression behavior, ensuring controlled application and removal; (2) physically crosslinked alginate/gluten/CNF hydrogels, incorporating transglutaminase enzyme for enhanced structural stability and reproducibility. These hydrogels are compatible with water and water-based cleaning fluids, offering a sustainable alternative to conventional synthetic gel formulations. Further assessments are underway to optimize their performance, evaluate their effectiveness on different heritage substrates, and ensure their safety, low-impact, and retreatability in conservation treatments.

**Camilla Henriques Maia de Camargos** is an Assistant Professor in the Conservation and Restoration of Movable Cultural Heritage Program at the Universidade Federal de Minas Gerais (UFMG). She holds a Ph.D. in Science (Physical Chemistry) from the Institute of Chemistry at UNICAMP (2021) and completed a doctoral internship at the Department of Chemistry

at the University of Florence (2020). She also earned a Master's degree in Chemistry (Physical Chemistry) from UFMG (2016) and a Bachelor's degree in Conservation and Restoration of Cultural Heritage from the same institution (2013). Her research focuses on the investigation and treatment of books, documents, and works of art on paper, with a strong emphasis on interdisciplinary studies that apply chemistry to the characterization and deterioration processes of cellulosic materials. Additionally, she develops advanced materials and sustainable nanotechnologies for the conservation of cultural heritage, integrating scientific innovation with preservation practices.



# Athina Georgia Alexopoulou<sup>+1</sup> and Penelope Banou<sup>+1,2</sup>

<sup>1</sup> University of West Attica, Athens, Greece

<sup>2</sup> Northumbria University, Newcastle, UK

<sup>+</sup> Presenting and corresponding authors

email: athfrt@uniwa.gr and Penelope.banou@northumbria.ac.uk

## Assessing gels for varnish removal on works of art on paper

This contribution aims to detail a comprehensive approach to assessing the functionality, applicability and effectiveness of the cleaning materials produced within the GREENART project. The different steps encompassing the pre-treatment documentation, cleaning applications, and post-treatment examination are presented. Non-destructive techniques have been used to gather information on the condition, the outcomes of applications and their impact on the media and support of the artworks. This included VIS and UVL imaging in different modes, colorimetry, glossimetry and opacity measurements.

Within the framework of the GREENART project, the application of gels has been employed for varnish removal from prints on paper. Varnish removal can be a complex and challenging process considering its effects on printed or coloured media, as well as the paper support.

The gels exhibited varying behaviours when combined with different solvents and cleaning fluids, as well as differing effects on the varnish layer. Assessment of GREENART gels provided the opportunity to re-consider the criteria and objectives of treatment. The outcome of the trials will be presented and discussed, offering new insights into varnish removal techniques in paper conservation.

**Athina Georgia Alexopoulou**, PhD in Chemical Engineering, (National Technical University of Athens), is a Professor at the University of West Attica (UNIWA) in the Department of Conservation of Antiquities and Works of Art. She is member of the University Board and manager of the University's partnership to European HORIZON Project GREENART. She founded and leads the Research Laboratory ARTICON focusing on cultural heritage conservation protection. She recently completed her appointment in the UNIWA's Council of Training and Lifelong Learning as well as in the Scientific Advisor Committee in Culture, Tourism and Creative Industries of the National

Council for Research, Technology and Innovation. Her expertise includes non-destructive analysis and chemical microanalysis of artworks, supported by numerous national and European grants. She has a substantial publication record, including monographs, books, chapters, educational manuals and scientific papers. "

**Penelope Banou** holds a PhD in Conservation of Antiquities and Works of Art (University of West Attica, Greece, 2024), a M.A. degree in Conservation of Fine Art (University of Northumbria at Newcastle, UK, 1998), and a B.A. degree in Conservation of Antiquities and Works of Art (TEI of Athens, Greece, 1996). Since 2022, she has been a lecturer in the MA Conservation of Fine Art program, Northumbria University, UK. From 1998 until 2008 she worked as a freelance paper conservator collaborating with museums, private and public collections. Following that, she worked as a paper conservator at the Conservation Department of the General State Archives of Greece in Athens from 2008 to 2022. She has been involved in several conservation and research projects, with several publications for the last 20 years.

## Chiara Biribicchi<sup>+</sup>

Greenberg Steinhauser Postdoctoral Fellow, LACMA,  
Los Angeles, USA

<sup>+</sup> Presenting and corresponding author

email: cbiribicchi@lacma.org

### **The application of GREENART cleaning systems for the removal of wax-based coatings at LACMA**

The development of low-impact cleaning systems for the removal of wax-based coatings remains an ongoing challenge in cultural heritage conservation. Various waxes, depending on historical, geographical, and cultural context, have been used over the years as artistic or conservation materials. Some continue to be employed for their excellent protective properties against environmental deterioration and humidity. Despite the diverse physico-chemical properties of these waxes, they generally share a medium-low polarity – with some variations – and insolubility in water. As a result, their removal typically requires organic solvents, often toxic or aggressive toward other potentially sensitive materials within the stratigraphy of the object. This highlights the need for alternative cleaning methods that minimize the use of organic solvents, balancing sustainable conservation practices with the goal of preserving the object's integrity. In this context, a 19th-century Tibetan Altar Table has been selected as one of two case studies for the GREENART project. The table's complex stratigraphy includes a painted layer, a varnish, and a black montan wax layer, which is the target of the cleaning treatment. The primary challenge lies in preserving the underlying varnish and paint layers, which are sensitive to traditional cleaning methods that are effective on the montan wax layer. LACMA aims to explore innovative cleaning technologies that can help remove the wax layer while preserving the underlying materials, fostering sustainability in the field and ensuring the long-term preservation of objects of historical and cultural significance.

**Chiara Biribicchi** is the Greenberg Steinhauser Postdoctoral Fellow within the scientific research group at the Conservation Center of the Los Angeles County Museum of Art (LACMA). Prior to her time at LACMA, Chiara pursued a PhD in Environment and Cultural Heritage as part of the Earth Sciences doctoral program at Sapienza University of Rome, where her research

focused on the development of low-impact cleaning systems for cultural heritage conservation. She also holds a Master's degree in Conservation of Cultural Heritage from the Opificio delle Pietre Dure in Florence, Italy, with a specialization in the conservation of paintings, polychrome wooden sculptures, and contemporary art.

## ABSTRACTS AND SHORT CV

## SESSION 2

## Chair: Julia Nagle

**Julia Nagle, Director, Julia Nagle Conservation, London, UK**

**email:** paintingconservation@me.com

**Julia Nagle** is an ICON accredited conservator of paintings and assessor for Professional Accreditation of Conservation Professionals across all disciplines. She set up her conservation practice, specialising in modern and contemporary painting conservation, in 2009. Based in Notth London, the Studio now employs 5 conservators, two registrars, one of whom is a qualified preventive conservator, and runs an annual paid internship for a recent conservation graduate to specialise in modern and contemporary paintings. Julia is a Fellow of the International Institute for Conservation of Historic and Artistic works, a member of the Advisory Board for The Hamilton Kerr Institute, on the selection committee for the Plowden Medal and an external advisor for the GREENART project at Tate.

# Soraya Alcalá<sup>+</sup>, Silvia Russo and Per Knutås

The Museum Of Fine Arts, Houston, USA

<sup>+</sup> *Corresponding authors*

email: salcala@mfah.org

## **Evaluating new sustainable hydrogels and nanofluids for the removal of multiple varnish layers on an Old Master painting.**

This study investigates the use of new sustainable hydrogels and nanofluids developed within the framework of the European project GreenArt (G.A. number 101060941) in the delicate process of varnish removal, specifically targeting the separation of synthetic varnish from natural varnish layers in paintings. Varnish removal is a critical yet challenging task, as conventional methods could risk damaging the underlying paint layers due to the similar solubility parameters between the paint and the varnish. To address this, we tested various nanofluids loaded into the innovative hydrogels, which are designed to control the delivery of solutions penetration with the desired outcome to selectively target the material to be removed while being non-toxic and sustainable. The formulations were tested on a previously restored painting on canvas by Antonio Bellucci, 1654-1726, with a complex varnish structure. Our evaluation focused on factors such as solution release and overall effectiveness to identify the most successful formulation for safely removing a synthetic varnish. The results demonstrate that combining new Greenart hydrogel PVA-SA and nanofluid formulation HCO CeXOH-DEK provides a promising solution for varnish removal, offering better control over selectivity compared to conventional methods such as free solvents and older nanofluids formulations. This approach not only ensures a more targeted and efficient removal process but also represents a step toward more sustainable practices in art conservation. This presentation compares the results from newly developed sustainable and older nanofluid formulations with traditional methods, highlighting the importance of advancing environmentally friendly approaches in the field of art conservation.

**Soraya Alcalá** is a paintings conservator currently working at the Museum of Fine Arts, Houston as a head of the paintings conservation lab. Previously, she worked as a conservator at the American Museum of Natural History, New York; Opera della Primaziale Pisana, Italy; the National Museum of Art of Catalunya, Spain; The Victoria and Albert Museum, U.K., as well as leading a private practice for almost ten years while living in N.Y. Soraya obtained her B.A. in Conservation of Cultural Heritage at the University of Barcelona, Spain, and an MSc in Materials and Diagnostic Techniques of Cultural Heritage at the Department of Chemistry and Industrial Chemistry at the University of Pisa, Italy. Soraya's research focuses on the invention of innovative cleaning techniques. She organizes workshops teaching cleaning sensitive materials and gels systems to mid-careers conservators. She consulted and carried out cleaning treatments for different institutions and private practices.

# Morana Novak<sup>+</sup> and Bronwyn Ormsby<sup>+</sup>

TATE, London, UK

<sup>+</sup> *Presenting and corresponding authors*

**email:** Morana.Novak@tate.org.uk and Bronwyn.Ormsby@tate.org.uk

## **Scientific research in support of the conservation of Bridget Riley's paintings *Fall* and *Hesitate*.**

This presentation summarises a range of activities designed to support the conservation treatment of Bridget Riley's (b. 1931) paintings *Fall* (1964) and *Hesitate* (1963) as part of Tate's contribution to the Greenart project. This includes information gathered about each painting using a range of imaging and analytical tools, as well as exploring polyvinyl acetate (PVAc) paints through literature and experimental studies including reviewing current research, analysis using pyrolysis gas chromatography mass spectrometry, exploring paint constituents, solvent effects and extractable materials, swelling behaviour in free liquids as well as ongoing cleaning system residue studies. These combined efforts have helped to inform risk around the cleaning of PVAc paints using wet-systems and helped to underpin the successful conservation treatment (to date) of *Fall*.

**Morana Novak** is the Greenart postdoctoral researcher in Conservation Science at Tate. Before joining Tate, she gained her PhD in Heritage Science at University College London. Her main research interest is developing novel analytical methodologies to characterise modern materials and study their degradation. She is a committee member of the Icon Heritage Science Group and the Icon Modern Materials Group.

**Bronwyn Ormsby** is Tate's Principal Conservation Scientist and has led the Conservation Science and Preventive Conservation team since 2016. Bronwyn has specialisms in the analysis of synthetic polymers and modern paints as well as collaborative conservation treatment research. She disseminates widely and examples of her projects include The Rothko Conservation Project (2012-14), NANORESTART (2015-2018), CMOP (Cleaning Modern Oil Paints, 2015-2018) and currently GREENART (2022-2025); all of which



aim to enhance and evaluate new (and green) options for the surface cleaning treatment of modern and contemporary art. Bronwyn was a key member of the GCI CAPS (Cleaning Acrylic Painted Surfaces) workshop team and lectures and delivers research into practice workshops for conservators and students nationally and internationally. Bronwyn was the 2024 recipient of the Plowden Medal awarded for recent contributions to the advancement of the conservation profession.

## Annette King<sup>+</sup> and Katey Twitchett-Young<sup>+</sup>

TATE, London, UK

<sup>+</sup> *Presenting and corresponding authors*

**email:** Annette.King@tate.org.uk and Katey.Twitchett-Young@tate.org.uk

### **Surface cleaning Bridget Riley's Fall using novel GREENART hydrogels**

This presentation outlines the approach and results of several streams of practice-based research as well as the conservation treatment of British artist, Bridget Riley's (b.1931) painting, *Fall* (1963). This second offering from the Tate Greenart team will build on the presentation by Novak and Ormsby, by summarising research into Riley's practice, the making, condition and vulnerabilities of the two paintings, and the subsequent creation of a series of mock-ups based on research into Riley's technique, and how they were used for the evaluation of a range of cleaning materials. The presentation will also include the approach and the results of several phases of iterative, comparative material evaluations, and optimising the cleaning system for *Fall*. The team will reflect on how the Greenart hydrogels fared when compared with more familiar cleaning options and describe the cleaning system devised and successfully employed to surface clean *Fall* in March 2025.

**Annette King** joined Tate in 1997 and is one of the Paintings Conservators for Tate Modern, with a special interest in Modern and Contemporary Paintings. Her earlier research was centred on early 20th-century artists Picabia, Picasso and Modigliani, with particular reference to their materials and techniques. More recently she has worked closely with Bronwyn and the Conservation Science team on the treatment and technical examination of Warhol's *Marilyn Diptych*, 1962, using the CSGI's Nanorestart material, Peggy 6 gel and is currently Tate's lead paintings conservator for the international GreenArt project, testing new sustainable cleaning techniques with a view to cleaning Bridget Riley's *Fall*, 1963 and *Hesitate*, 1964.

**Katey Twitchett-Young** obtained a BA in History of Art and Studio Practice at Winchester School of Art, University of Southampton. In 2004 she graduated from Northumbria University with a distinction in MA Conservation of Easel Paintings. Following this she undertook an internship at Fine Art Conservation Group LLC in New York. She received the ICON Student Conservator of The

Year award in 2005 for her investigative research into the artist's materials and preservation of Ron Mueck's contemporary sculpture. In 2005-2006 she worked as a freelance paintings conservator in London, after which she gained a short contract as Artlease Conservation Officer at Southampton City Art Gallery. In 2007 she obtained a Fellowship in the Conservation of Modern and Contemporary Art at the Sainsbury Centre for Visual Arts, Norwich, which led her to gain an Assistant Paintings Conservator role at Tate in 2010. She is now an ICON Accredited Paintings Conservator at Tate, working within the loans out department, and Tate St Ives display and exhibition programme. Katey has lead on many conservation and collection care research projects including David Hockney's Bigger Trees Near Warter, Rose Wylie's Lorry Art, and the ongoing restoration of John Wells Sacre du Printemps. Katey has a special interest in British 20th Century Art and St Ives modern artists. She is also passionate about promoting sustainability in museums and in the conservation field. In January 2024, she was seconded to the role of Tate's Support Paintings Conservator on the International GreenArt Project, which focuses on the study and novel cleaning of two early paintings by the Iconic British Artist, Bridget Riley.

## ABSTRACTS AND SHORT CV

## SESSION 3

## Demonstrations

### Chair: Bronwyn Ormsby

Principal Conservation Scientist, TATE, London UK

email: Bronwyn.Ormsby@tate.org.uk

**Bronwyn Ormsby** is Tate's Principal Conservation Scientist and has led the Conservation Science and Preventive Conservation team since 2016. Bronwyn has specialisms in the analysis of synthetic polymers and modern paints as well as collaborative conservation treatment research. She disseminates widely and examples of her projects include The Rothko Conservation Project (2012-14), NANORESTART (2015-2018), CMOP (Cleaning Modern Oil Paints, 2015-2018) and currently GREENART (2022-2025); all of which aim to enhance and evaluate new (and green) options for the surface cleaning treatment of modern and contemporary art. Bronwyn was a key member of the GCI CAPS (Cleaning Acrylic Painted Surfaces) workshop team and lectures and delivers research into practice workshops for conservators and students nationally and internationally. Bronwyn was the 2024 recipient of the Plowden Medal awarded for recent contributions to the advancement of the conservation profession.

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## DEMONSTRATIONS

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### Piero Baglioni

#### Guidelines for a "greener" selection of solvents

- The shift toward sustainable conservation
  - Guidelines for a "greener" selection
  - Innovations in green cleaning solutions
  - Practical use and impact on conservation workflows
- 

### Giovanna Poggi

#### How to apply GREENART hydrogels in conservation practice

- Introduction to gels
  - Innovative gels developed within Greenart
  - Demonstration of gels features and handling
  - How to apply gels in conservation practice
- 

### Camilla H. M. Camargos

#### How to apply nanocellulose/gelatin hydrogels to remove artificial soil or aged adhesives from smooth or rough mock-up surfaces

- The setup and handling of nanocellulose/gelatin hydrogels
- Removal of artificial soil from painted surfaces
- Removal of aged adhesives from paper substrates
- Considerations for reuse and safe disposal

## ABSTRACTS AND SHORT CV

## SESSION 4

## Demonstrations

### Chair: Antonio Mirabile

**Independent Paper Conservator, Paris, France**

**email:** antonio.mirabile@gmail.com

**Antonio Mirabile** began his career in 1988 and is a paper conservator and preventive conservation consultant. He studied Book and Paper Conservation in Florence and Preventive Conservation in Paris, where he currently resides. In France, he is accredited by the Ministry of Culture to conserve and restore works from the Musées de France. He works regularly with both public and private collections, focusing on modern and contemporary works on paper and architectural drawings. As a UNESCO expert, he has led paper conservation projects in Yemen, Egypt, Mongolia, DPRK, Uzbekistan, and Mauritania. Currently, he divides his time between UNESCO missions, conservation treatments, and preventive conservation assignments. As a partner in EU-funded projects (NANORESTART, APACHE, GREENART, and AURORA), he contributes to research on dye-based inks in contemporary drawings, the development of innovative conservation methods, and extensive dissemination and knowledge-transfer activities among professionals, researchers, and industry partners. He also teaches paper and preventive conservation through short courses and masterclasses at various universities. Author or co-author of around 80 articles, he has published two handbooks with UNESCO and is an active member of INCCA, ICOM, and the Blue Shield.

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## DEMONSTRATIONS

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**The following demonstrations will be live-streamed from the painting conservation studio to the auditorium.**

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### Giovanna Poggi

**GREENART nanofluids for the removal of detrimental layers from artworks**

- Introduction to nanofluids
  - Innovative nanofluids developed within Greenart
  - Demonstration of handling of nanofluids, including the loading in retentive GREENART gels
  - How to apply gels loaded with nanofluids in conservation practice
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### Penelope Banou

**Varnish removal from historical black and white prints using GREENART organogels**

- Introduction on soil and varnish removal from prints on paper supports.
- How to apply hydrogels for soil removal from varnished prints.
- How to apply organogels for varnish removal from varnished prints.
- Application of organogels and hydrogels on prints.
- Assessment and discussion of the results.

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## Annette King, Katey Twitchett-Young and Morana Novak

**GREENART hydrogels for the removal of accumulated soiling  
from painted surfaces**

- Aim: demonstrating the process used to wet surface clean Bridget Riley's Fall
  - Working with CSGI hydrogels on Riley painting mock-ups
  - The setup - what you will need
  - Using hydrogels - the process
  - Post-use considerations
  - Tips and tricks
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# GREENART

## GREen ENdeavour in Art ResToration

### ORGANISATION

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Bronwyn Ormsby, Jane McCree, Annette King, Katey Twitchett-Young,  
Morana Novak, Catherine Yaglicki, Angelica Bartoletti, TATE



MUSÉE DU QUAI BRANLY  
JACQUES CHIRAC

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