2019 Conference Abstracts

Keynote speaker - David Ward – Beauty, Mystery & Simplicity
David is one of Britain's most notable landscape photographers. His work focuses on the abstract, with an amazing eye for form, detail and shape. Here he showcases his work and his unique take on landscape photography.

Louis Porter - Original Copies: Albumen Printing the Scanned Negatives of Victorian Photographer John Thomson.
Using the Wellcome library's digitised negatives of Victorian photographer John Thomson as a test case, this paper will describe a simple, non-invasive method for producing process accurate facsimiles of fragile historical photographic material. John Thomson (1837-1921) is widely regarded as one of the founders of modern photojournalism and documentary photography. He produced the first photographs of Angkor Wat and his publications illustrations of China and Its People (1874) and Street Life in London (1878) are frequently cited as two of the most technically and visually important publications of the period. Shortly after Thomson's death in 1921, Henry Wellcome purchased 700 of Thomson's collodion glass plate negatives. However, as the Wellcome does not own any original positives, reproductions of the work have taken on many forms over the years. In 2007 the Wellcome imaging department produced high-resolution scans of the by then, extremely fragile negatives. Using these scans, Thomson's extensive technical writings on photography and with the support of the Wellcome imaging department and a research grant from the London College of Communication, albumen prints of some of Thomson's photographs of Angkor Wat have been produced. Although the paper will focus on the reproduction of Thomson's negatives, it will also explore the history and challenges faced in the reproduction of early photographic material and the ways in which photographer's themselves can input into this discourse.

Volker Janson - Predictable, reproducible and lossless, all-embracing reproduction of 2 dimensional objects is the number one goal in cultural heritage imaging.
This presentation shows how to achieve this by the means of image quality analysis and management. It gives a brief insight into the methods and standards used in that field. It reports how the now available ISO standard ISO 19264-1 Photography - Archiving systems - Image quality analysis - Part 1: Reflective originals were developed out of the best practice guidelines published by Metamorfoze and FADGI. We will see how the standard is structured and what the listed image quality criteria mean. We show how these methods are used to analyse imaging systems. We see how the practical implementation of image quality analyse is done in digitization projects running under Metamorfoze or FADGI Guidelines governance. We will introduce the separation into different image quality levels depending on the original

material and the reproduction purpose. Last but not least we will show how much a digitization project will benefit from using these workflows.

Gavin Willshaw - National Library of Scotland experience of using the new Book2Net Dragon V-Shape system for high-throughput digitisation of medieval manuscripts.

The National Library of Scotland recently began digitisation of a collection of over 200 unique and fragile medieval manuscripts, many of which date from as far back as the 9th century. Funding was secured from a private donor and a deadline was set for all material to be digitised and available online by the end of 2020. To complete digitisation in this timeframe, the Library procured a Book2Net Dragon, the only viable camera system on the market that could digitise material of this nature quickly, safely and to a high standard. This paper will give an overview of the Library's selection criteria and reasons for purchasing the system, summarise the Dragon's key features, and provide an honest assessment of the digitisation team's experience with the equipment to date. It will discuss the balance the Library has been able to achieve between maintaining quality and high throughput while minimising damage to manuscript volumes. Furthermore, the paper will outline how this new work strand has been integrated into the Library's wider digitisation programme and the strategic aim to have a third of National Library collections in digital format by 2025.

Geoff Laycock - Digitising Sudanese Culture; Adapting a project to challenging conditions

In museums, archives and libraries we are used to delivering digitisation to the latest standards and in the best conditions. This paper will focus on what happens when digitisation projects are delivered in more challenging global situations. Working on a British Council Cultural Protection Fund project in Sudan has asked serious questions about the best approach in a rapidly changing situation. An initial plan focussed on engaging with large scale institutions has evolved into working with an increasing number of local volunteer teams using consumer digitisation equipment and minimal training. The question has had to be asked, "When it comes to digitisation; what is good enough in terms of quality in order to protect endangered culture?". The paper will focus on how the project team coped with a fluid project landscape and how the result will be an online resource that is perhaps richer and more representative of Sudanese culture than the original approach would ever have been. The paper will centre around the decisions that had to be made and how returning to the aim of the project; preserving Sudanese culture, generated innovative solutions to issues. This insight could be of real value when applied to similar challenges the audience may face with their projects.

Lindsay MacDonald & Taylor Bennett - Reflectance Transform Imaging

We are using photography with directional lighting for capturing image sets of Roman writing tablets. This is part of a project between the Centre for the Study of Ancient Documents (CSAD) in the Faculty of Classics at Oxford University and the

Museum of London. The presentation will consider the issues of photography for RTI, and will compare the performance of the new system with the conventional PTM and RTI techniques. The new web-based OxRTIViewer provides options for multiple annotation and drawing layers, enabling palaeographers anywhere easily to view each other's interpretations and collaborate across the internet. New technology has been developed to extend the capabilities of Reflectance Transform Imaging (RTI) for palaeography. First, a new RTI dome has been designed with 128 LED lights, with the innovation that the majority of the lights are concentrated at low angles of elevation, to increase the angular resolution and enable finer discrimination of surface features. Second, new software algorithms take advantage of the additional images to analyse local reflectance gradients. Third, a new interactive web-based viewer (OxRTIViewer) for RTI files has been written in Scalable Vector Graphics (SVG) for viewing and sharing the image sets in web browsers. Archaeology (MOLA), studying the cache of wooden stilus tablets found at the Bloomberg site and dating from the early days of the Roman settlement in London. A Nikon D800E with several lenses is mounted at the top of a dome illumination system, with micro-controlled LED lighting.

Carola Van Wijk & Henni Van Beek - Operation Night Watch - High resolution imaging of Rembrandt's largest painting.

Henni and Carola will talk about their work, research and experiences leading up to the Nightwatch project. The Rijksmuseum has just started a project for the conservation of the Nightwatch, which will take 3 years. The painting has been placed in a space of glass, so the public will be able to watch every move. Photography will be a very important part of this project and in cooperation with Robert Erdmann, the team is faced with a lot of challenges.

Ali Meyer - The Buddhist Legend in Stone – bringing Borobudur to Cyberspace

Light is the secret of photography. The lighting conditions give full expression to the plasticity and the vividness of the fine art masterpieces. With over 40 years experience of photography and 20 years at the forefront of digital imaging, Austrian fine art photographer Ali Meyer was responsible for the principal photography of the Borobudur Temple Compounds in Magelang, Central Java, Indonesia, a UNESCO World Heritage Site – one of the greatest Buddhist monuments in the world. People think that stone is dead, but if you look at it, it changes its expression every second with the light. In two, four-month-long sessions, photo campaigns had been conducted by photographer Ali Meyer, during which each one of the figurative panels and figures of the monument were photographed perfectly lit during night hours. The over 20.000 images were collected to became part of a virtual navigation system, giving instant 3D access to any point of the Borobudur. Large parts of the temple were also recorded in Quicktime Virtual Reality mode with some 120 shots for each 360 degrees panorama, taken at different times of the year, in order to ensure optimal lighting conditions. The pictures of the Javanese-Dutch photographer Kasian Cephas from the 1890's provide the basis for the first publications. About 100 years later Ali Meyer´s digital photography from 2009 and 2010 provide the demand of our modern time – bringing Borobudur to Cyberspace.

James O'Davies - Photographing Industrial subjects

Using two unique and rarely accessed case studies, a talk that discusses the importance of record photography as a means of preservation.

The Central Government War Headquarters. This is a 35-acre complex built 120 feet (37 m) underground as the United Kingdom's emergency government war headquarters – the hub of the country's alternative seat of power outside London during a nuclear war or conflict with the Soviet Union. It is located in Corsham, Wiltshire, in a former Bath stone quarry known as Spring Quarry which In 1940 was acquired by the Minister of Aircraft Productionand used as an underground engine factory. It was commissioned in 1955, after approval by Prime Minister Anthony Eden not only to house government and war rooms but to also house a BBC transmission studio, libraries and telecommunication systems. Underground, pitch black and in some areas rotting with damp, a unique photographic record was made to record a vast underground city with some surprises in store.

England's redundant, post war coal-power stations. "*Coal and oil-fired power stations are among the largest and most recognisable industrial complexes the 20thcentury produced. They had a profound impact on the British landscape, visually, environmentally and culturally, and the electricity they generated had a transformational impact on our economy and society*." Neil Cossons. Now with a closure programme for coal powered electricity due to end in 2025, these enormous structures along with their distinctive cooling towers will no longer be a feature we mark our landscape by. Given unprecedented access by the power companies, this talk will showcase the work of two Historic England photographers whose imagery and documentation of buildings, plant and infrastructure mark the record prior to demolition.

An insight into two complex industrial landscapes which few have entered, let alone record photographically. Meeting challenges at every turn the problem solving demands of photography was pushed to the edge.

Kevin Percival - A New History of Medicine

Covering more than 3000m2, the new Medicine galleries at the Science Museum will be almost double the size of the previous galleries, and reflect the dynamic and varied nature of Medicine and global health now in the 21st Century. As the sole photographer for the Science Museum's Medicine project, I have had the privilege of not only working with these vast and fascinating collections for the past two years, but also to attempt to give a human face to these stories. As museum professionals we are naturally inclined towards intriguing or beautiful objects, but in an arena as intensely human as Medicine it becomes essential to relate the clinical to the ordinary. Incredible, but often un-relatable, technology must somehow sit alongside

flesh and bone. Much of this linking is done through story-telling, and much of this is visual. Throughout the project I photographed over 1000 objects, provided 360 degree rotational photography, and produced gallery views, press pieces and photo-stories. I also illustrated two books offering different approaches to understanding and engaging with the collections. In addition, I shot a series of studio and environmental portraits of individuals who have pushed medicine forward over the last 60 years. These diverse practitioners, patients, researchers and teachers allow visitors to explore their stories through oral history and imbue the objects with a human emotion appropriate to such universal themes.

This paper intends to explore the ways in which stills photography has been used to enhance our understanding of this vast subject and its wildly varied facets: science, technology, religion, belief, trust, ethics and death. I will give a tour through the varied collections on display, touching on photographic technique along the way, explore some of the stories prompted by these incredible objects, and discuss the use of personal stories and of documentary and portraiture photography approaches within this context.

Mark Schlossman - Extinction. Photographing endangered and extinct animals and plant at the Field Museum of Natural History in Chicago.

In photographs and in text, the project documents over 130 species of endangered and extinct animals and plants – specimens found in the collections of The Field Museum of Natural History in Chicago – to generate an overview of the accelerating loss of biodiversity. The images lead the reader to the species' stories, promoting a greater understanding of conservation efforts, reasons for decline (including climate change, habitat loss and overexploitation) and mankind's stewardship of life on Earth at a critical time in history.

I started the project over a decade ago because I felt that large-scale issues, such as habitat loss, were not getting enough public debate and I wanted to say something about human domination of the biosphere by examining the reasons for biodiversity loss.

The 130 species are enough to provide a review of the extinction process. I chose many overlooked, non-charismatic species, highlighting the equal importance of every species in an ecosystem. The work to conserve non-charismatic species needs more public attention, more funding and more research compared to charismatic species with donor appeal.
A natural history museum exhibits less than one percent of its specimens. The photographs were made behind the scenes in the Field Museum's collections, revealing specimens.

Harrison Pim - Computer Vision at Wellcome Collection

In the last decade, the cutting edge hardware used to capture images has seen enormous changes and improvements, most of which will be well known to the audience. However, you might not know that there's been an equivalent revolution going on in the world of computer vision, where researchers have been teaching machines to process and interpret visual content.

A few mathematical and computational discoveries at the start of the decade inspired a new way of allowing machines to learn from data, with hundreds of new tasks becoming possible as a result. These days, machines can understand, interpret, and describe visual material in a fraction of the time it takes a human, with a higher degree of accuracy in many cases.

These new computational abilities are particularly useful at Wellcome Collection, where we're digitising roughly 10,000 new images every day. Creating the kind of detailed catalogue descriptions we need in order to make them accessible to the public is near impossible for our human cataloguers, so computational assistance is crucial. We've developed new, machine-learning driven ways of exploring and connecting the collection, which I'll demonstrate interactively as part of this talk.

Having covered the recent history of the field and the ways that we're applying current state-of-the-art techniques at Wellcome, I'll point out a few promising areas of current research which might have an impact on photographic fields soon.