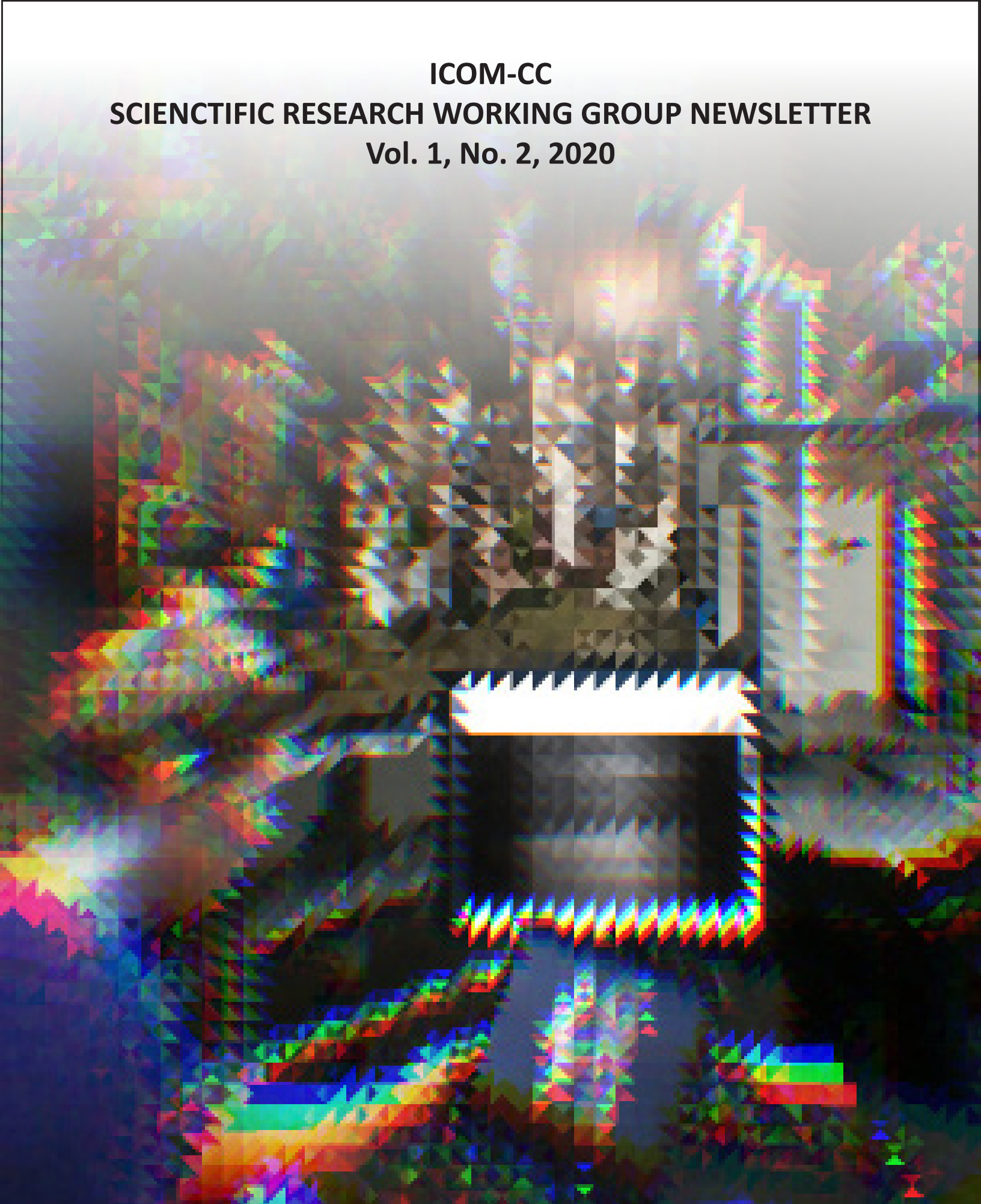


ICOM-CC
SCIENTIFIC RESEARCH WORKING GROUP NEWSLETTER
Vol. 1, No. 2, 2020



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Welcome from Your Coordinator

Dear Scientific Research Working Group members,

What a year 2020 has been! As a collective group we are navigating through a global pandemic, learning how to adopt new technologies to work from home and connect with loved ones, traversing the hard work of showing up and standing up to social injustices, and perhaps having difficult but necessary conversations with peers and colleagues.

The pandemic has postponed many conferences, including the ICOM-CC Triennial Conference in Beijing. Originally scheduled for September of this year, it will now be in May 2021. It has also impacted the cultural sector greatly; as a result, the job market is even more tenuous, especially for emerging professionals. This issue highlights scientists, with diverse backgrounds, who are in the early career stage (but not an emerging professional) - and an established veteran as an added bonus! – for their fresh perspective on their work experience, what skills and training will be important as the heritage science field evolves, and their motivations. I hope you enjoy their interviews as much as I did!

This year has been busy with preparing the Beijing Triennial Conference program. We received 41 paper abstracts and 34 poster contributions and accepted, after peer review, 16 papers and 12 posters. It was a very difficult selection process due to the many high quality contributions, and I believe we created a very interesting and strong lineup – a list of the accepted paper and poster titles are listed below. In addition, there were many submissions with scientific components in other Working Groups, so I highly encourage those planning to attend to also explore these. The Conference Preprints will be published in Spring 2021 and posted online for conference participants prior to the event.

Accepted oral presentations:

- The application of deep learning to automatic image recognition of bronze wares
- Study of water-soluble light aging products on Asian lacquer surfaces

- Determination of the endurance limit of a paint layer
- Dose-response modelling for the discolouration of historical iron gall ink on paper
- Study on the rapid detection of mold contamination on paper using the fast GC e-nose
- Numerical modeling of metal soap formation and microcracking in historical oil paintings
- Increasing evidence-based decision-making for loan agreements
- Reassessing the ResinKit as a plastics reference collection for cultural heritage research
- Observation and analysis of Zwischgold on late medieval sculptures
- Application of hyperspectral imaging technology to the analysis and research of Chinese paintings and calligraphy
- Study on the application of amino acid analysis to evaluate the degradation degree of ancient silk fabrics
- The opportunities of a global, shared research infrastructure for the conservation community
- Photospectrometric characterization of pigments using an unprocessed xenon light source
- Standoff laser spectroscopy for wall paintings, monuments and architectural interiors
- Analysis of the royal seals of the National Palace Museum of Korea
- Unveiling the importance of diffusion on the deterioration of cellulose acetate artefacts: The profile of plasticiser loss as assessed by infrared microscopy

Accepted posters:

- Comparative study of black-glazed tea bowls and white-rim black porcelain of Jizhou
- Application of pyrolysis-comprehensive two-dimensional gas chromatography to the study of paper-based cultural relics
- Tracing the biological origins of Chinese palace lanterns based on the mitochondrial rRNA analysis
- Application of cell lytic enzymes in the removal of bio-film from the surface of East Asian paintings
- Zooarchaeological research on the Site of National Sacrifice to Heaven in the Qin and Han dynasties
- Screen pathogens from ancient remains and reconstruct the phylogenetic history of ancient pathogens

- Lacquer-ware techniques from the 9th emperor of western Han dynasty in Haihun Marquis tomb
- Study of characteristics of an 8th century illuminated manuscript by combined use of MA-XRF and imaging with the Multispectral Microdome. The Codex Eyckensis explored
- Novel nano-formulations for improved preservation of parchment documents
- Polychromy pigment quantitative analysis methodological research based on Raman spectral mapping scanning technology
- Lead chlorides in paint on a Della Robbia terracotta sculpture
- Neutron radiography studies of the dynamics of moisture sorption in painting canvases reinforced using novel nanocellulose-based treatments

I have greatly enjoyed my first term as Coordinator for this Working Group, and hope to continue to bring fresh ideas and to strengthen communication amongst members in the upcoming triennium. As this term ends, I would like to thank my amazing assistant coordinators, who have all done a spectacular job! Alessa Gambardella, Ashley Freeman, and Jocelyn Alcatara-Garcia helped establish the Working Group Facebook page at the start of the triennium and contributed to posting interesting news and opportunities. The Facebook page has more than 1600 followers and counting! Judith Lee and Matija Strlic were instrumental in helping me organize and facilitate our interim roundtable for emerging professionals at the Science and Engineering in Arts, Heritage and Archaeology (SEAHA, University College London) in 2018. Ashley and I (with valued input from Vincent Beltran) reviewed submitted paper and poster abstracts for the Triennial conference. Lei Yong contributed to the first newsletter (2019) of this triennium, writing about the Palace Museum's research in large-scale hyperspectral imaging, and provided great input over the last three years for a worldwide perspective. This newsletter could not have been produced without Jocelyn and Judith, who both helped conceptualize and carried out the interviews, and Gary Mattison of GCI was instrumental in the design of this issue (and the 2019 one, too!).

Special thanks to Matija, who has been an ACO for Scientific Research for three trienniums, for his dedicated support! Matija, we hope you will continue to be an active member of the Working Group – your contributions are very valued!

We would like to hear from you! We welcome your comments - feel free to share with us any suggestions! And please join us in our first Zoom meeting. We will discuss what the Working Group should focus on for the next triennium, possible interim activities, future newsletter topics, and more. It will also be an opportunity for us to recon-

nect and reflect with our fellow colleagues – especially to hear from our members how they've been navigating the pandemic situation. **The meeting will be on 29 September, 8:30 am Los Angeles time** (time converter: www.time-converter.com) and **Zoom information will be sent out via email a week before the 29th**. Please check your spam or junk folders if you do not see the Scientific Research Working Group email in your inbox!

Please stay strong and safe!

Warmest regards,

Lynn Lee

Coordinator, Scientific Research Working Group

Interviews with Early Career Professionals

The evolution of the heritage science field has always involved applying and adapting technology and skill sets developed from other scientific fields. As such, recent years have seen the emergence of non-invasive, portable instrumentation, for example X-ray fluorescence spectrometry (both point analysis and mapping) and chemical imaging techniques, becoming standard tools alongside the more traditional, sampling-based analytical approaches – and the horizon indicates new, innovative ways of thinking and collaborating are developing. We interviewed four early career scientists (and a veteran as a bonus!) to get their perspectives on the future of the field, the rewards and challenges, how to make a cross-disciplinary team work, and what makes them excited to go to work every day. Despite the unprecedented events of this year, it is evident that the future is bright!

Lora Angelova

Lora Angelova is Head of Conservation Research and Audience Development at The National Archives UK. Prior to this role, she was a Conservation Scientist at the Archives, and a Post-Doctoral Researcher on the NanoRestArt project at Tate, London. Lora holds a Ph.D. in Chemistry from Georgetown University in collaboration with the National Gallery of Art, D.C., specialising in heritage science and surface cleaning of artworks using polymer gels. She was a Newton Fellow at the Melville Laboratory for Polymer Synthesis at the University of Cambridge and the History of Art Materials Studies Laboratory at the University College of London.

Edgar Casanova-González

With a background in Radiochemistry (B.Sc., 2000 and M.Sc., 2006, ISCTN, Cuba) and a Ph.D. in Materials Science and Engineering from the Universidad Nacional Autónoma de México (UNAM), Mexico, Edgar Casanova-González is currently a CONACyT Researcher at the National Laboratory

of Sciences for the Research and Conservation of Cultural Heritage, at the Physics Institute of the UNAM. Over the last decade his research has been dedicated to the development and application of non-destructive and portable analytical techniques for the study of cultural heritage. Such techniques include Raman, SERS, FTIR, XRF and FORS spectroscopies, together with imaging methods, applied for the analysis of a wide variety of materials: lithic, panel, mural and easel paintings, manuscripts, ceramics, pigments and dyes and cave paintings, from pre-Hispanic period to modern times.

Kate Dooley

Kate Dooley is an Imaging Scientist in the Scientific Research department at the National Gallery of Art in Washington, D.C., and is interested in the spectroscopic identification and mapping of materials and macroscale chemical imaging methods. She graduated with her Ph.D. in Chemistry from the University of Michigan in 2010, and received her Bachelor of Science from Kansas State University in 2005.

Laura Maccarelli

Laura Maccarelli graduated with a M.Sc. in Conservation Science from the University of Bologna. She had brief internships in England and Malta before serving as an Andrew W. Mellon Fellow in the Research laboratory of the Conservation Center at the Los Angeles County Museum of Art (LACMA). She is now the Assistant Scientist at LACMA. Her work focuses on material identification of art objects from the LACMA collection. She is involved in a research project to identify natural organic dyes on textiles using destructive and non-destructive techniques.

Rebecca Ploeger

Rebecca Ploeger joined the Art Conservation Department in 2014 as Assistant Professor in Conservation Science. Before moving to Buffalo, she was a Charles E. Culpeper Advanced Training in Conservation Science fellow at the National Gallery of Art, Washington, DC, in the Scientific Research department, and collaborated as a guest researcher with the National Institute of Standards and Technology (NIST), Gaithersburg, MD. Rebecca has a Master's degree in Engineering Chemistry from Queen's University, Canada, and a Ph.D. in Chemical Sciences from the University of Turin, Italy, both specializing in polymer materials in cultural heritage. Her main interests are in the design, characterization, and stability of synthetic and polymeric materials used by artists and conservators.

Aaron Shugar

Aaron Shugar received his Ph.D. in Archaeometallurgy from the Institute of Archaeology, University College London and was awarded a NERC funded postdoctoral fellowship in-

vestigating Late Bronze Age glass manufacturing in Egypt. Aaron served as Co-Director of the Archaeometallurgy Laboratory at Lehigh University, PA and was a visiting scientist at the Smithsonian Center for Materials Research and Education. He has conducted scientific analysis on archaeology material as well as works of art in museums and academic settings for over 17 years and taught in archeological, materials science and art conservation programs over that time. He is also on the editorial board for Studies in Conservation.

What was your pathway your current position within the cultural heritage field? Tell us about your studies, any internships, and what motivates you?

Angelova

I studied chemistry and biology at university, though I had really wanted to pursue printmaking or medical illustration; sadly my parents were not excited about the prospect of art school. I worked around this 'limitation' (as I saw it at the time), by taking on as many applied art and art history courses as the US curriculum would allow and surrounding myself with creative thinkers and makers.

I stumbled into the heritage science field by googling 'art and chemistry' in a state of desperation whilst enrolled in a Nanoscience MA program. The search turned up a popular science article featuring the work of Barbara Berrie (now Head of Scientific Research at the National Gallery of Art) and Richard Weiss, a professor of chemistry at Georgetown University. After contacting Prof. Weiss, I dropped out of my MA and embarked on a Ph.D. in chemistry in his laboratory, under joint supervision with Barbara. My research aim was to develop a tailored gel cleaning system.



Lora Angelova

After the Ph.D., I secured a Newton Fellowship with Prof Oren Scherman at the University of Cambridge to explore gel-surface interactions. I spent one year at Cambridge, and the second, in UCL's History of Art Department, working with Dr Emma Richardson and continuing with my gel-related work. After the Newton Fellowship, I was appointed as a researcher on the NanoRestArt project at Tate, working with Bronwyn Ormsby.

After one year on the project, a permanent post opened for a conservation scientist at The National Archives, UK. I was incredibly reluctant to leave the project at Tate – it covered all of my interests – gels, treatment, contemporary art – and I didn't feel that I knew enough about paper, parchment, or archival conservation. But a permanent science job in our field does not come often, and I opted for the security... and the challenge. After a year in that post, the Head of Conservation Research position became available, and it seemed to open up huge possibilities to develop research in our department in a whole new direction, work with my colleagues to create impactful projects that showcase the potential of archives heritage science research, and make the most of the large network of experts I had established over my career, so I went for it. It was (and is) a challenge, but I suppose that's what motivates me.

Casanova-González

A friend recommended to me the Ph.D. program on Materials Science and Engineering at the National Autonomous University of Mexico, and she was also the link with my Ph.D. director, who was at the time the leader of a small group dedicated to the scientific research on cultural heritage, focused on non-destructive and mainly portable techniques.



Edgar Casanova-González

From 2008 to 2012 my Ph.D. research project was related with the application of SERS to the study of Mexican cultural heritage. From 2012 to 2015 I was a postdoctoral fellow at the Physics Institute of the National Autonomous University of Mexico and at the Corrosion Research Center of the Autonomous University of Campeche, and a researcher at the CODICE laboratory on the National Coordination for Cultural Heritage Conservation, National Institute of Anthropology and History. By mid-2015, the small research group where I conducted my Ph.D. research had evolved into a National Laboratory of Sciences for the Research and Conservation of Cultural Heritage, which I joined in late 2015.

Dooley

I have a Ph.D. in Analytical Chemistry. In graduate school, I used Raman spectroscopy to study bone biomechanical function and development in animal models for different bone diseases. I've always liked spectroscopy and the equipment I utilized in graduate school was similar to what was being used at the National Gallery of Art to do reflectance imaging spectroscopy.



Kate Dooley

I started at the Gallery doing a post-doctoral fellowship where the overall goal was to identify and map binding media in works of art using near-infrared reflectance imaging spectroscopy. I'm now an Imaging Scientist in the Scientific Research department and use macroscale imaging spectroscopy methods to examine works of art.

Maccarelli

I got both my Bachelor's and Master's degrees in Conservation Science from the University of Bologna. When I chose what I wanted to study, I was 19 and had a vague idea of what I wanted to do in my life; I had never worked in a museum environment or in the cultural heritage field. I only knew I liked art. I grew up going to museums and archaeological sites. When I decided what I wanted to study for five years and do for the rest of my life, I wanted to be certain that it involved the arts.



Laura Maccarelli

After I got my Master's degree, I realized that it would probably be difficult to find a job in the museum field because I

did not have enough prior experience. So, I investigated internships and volunteer positions; I applied for the Leonardo da Vinci European Programme. Thanks to this program, I was able to work at Heritage Malta for four months. During my internship, I made connections with a local company (Evolve Ltd.) also involved in the cultural heritage field. They offered me an internship collecting environmental data for monitoring archaeological sites.

After both internships, I obtained a volunteer position at the National Trust in Swinton UK, also working on environmental data from a Roman archaeological site.

Next, before I was offered an internship at LACMA, I returned to the University of Bologna with Professor Mazzeo where I assisted in his laboratory. While I was working there, the Professor put me in contact with a LACMA conservation scientist who was looking for an intern to join their project performing dye analyses.

I have been at LACMA for about six years. I started as an intern and transitioned to an Andrew W Mellon Fellow in the Research laboratory. In 2017, I was hired as the Assistant Conservation Scientist at the Museum. It has been almost 10 years since I got my Master's degree and I am still learning. The art and the artists that I come in contact with still amaze me. As many of my colleagues know, I have traveled a long and sometime difficult road but it was entirely worth it. I look forward to the future and to the next challenge in the Museum. Although I cannot predict what unique task that might involve, I am certain it will be interesting.

Ploeger/Shugar

Ploeger: I studied engineering and then moved into chemical sciences in my graduate and post-graduate work, where I tailored my research to investigate polymeric materials used by both artists and conservators. This also meant moving to Europe (Italy), which provided me with many more opportunities for collaboration.



Rebecca Ploeger

Shugar: I studied anthropology, and then moved into archaeological and materials sciences in my graduate and post-graduate studies. This also meant moving to the U.K., which provided me with a wealth of new opportunities, including field-work in Israel.



Aaron Shugar

We are both motivated by being able to share our unique knowledge with colleagues and with anyone interested. As well, the types of research projects and problems we encounter are varied, and we often work with a diverse group of professionals from around the world.

Describe some of the challenges and rewards that you have encountered in your current or past roles?

Angelova

I have been fortunate to work with, and get to know, a lot of really inspiring people during the past decade. The most rewarding aspect of my work is being able to work alongside researchers that I hugely respect, who have given me a great deal of mentorship and shown support and trust for the work I do. I am now trying to take these lessons and use them in my role, by supporting and enabling the researchers and students that work with us at The National Archives. The challenges I encounter usually revolve around the interdisciplinary nature of our work and the (sometimes) competing interests that are borne of this mashup. It can be difficult to meet the immediate needs of collection care practitioners and simultaneously carry out rigorous scientific studies. There's a balance that can be struck, and it seems to rely on very clear communication of the goals and shortcomings for each strand of the work. Diplomacy is not everyone's strong suit, and I am the first to admit that it is a skill I'm only now slowly beginning to acquire.

Casanova-González

The challenges are always related to the different approaches to the cultural heritage from the scientists, conservators, art historians and archaeologists points of view, and the need to make them converge to a common objective. There are also challenges on the diversity of research questions,

materials, cultures, which make every investigation unique. The rewards are also on this uniqueness, which make the research always interesting, and in the close access to heritage objects and its secrets.

Dooley

A big perk is that I've been fortunate enough to work with knowledgeable colleagues on some iconic paintings by the likes of Giovanni Bellini, Leonardo da Vinci, and Vincent van Gogh to help reveal new information about the materials used or the working methods of the artists. One thing that has been a learning process is communicating scientific results to a broad audience, including scientists, conservators, and art historians.

Maccarelli

This is, of all the questions, the most difficult one to answer. My situation during the last two years has been complicated; my supervisor left for another position, and currently I have to move the lab to a temporary facility. I found this challenging because, technically, I am considered a junior staff but I am acting head during the move and have had to make the executive decisions. Although this has been a steep learning curve, it has been a valuable learning experience. It is very challenging but at the same time it is rewarding because you see your coworkers trusting your scientific knowledge and asking for your opinion and your advice.

Ploeger/Shugar

The breadth of knowledge needed to be successful is a challenge, especially as an educator. We need to know more than the single scientist and stay on-top of advances in research. Research can also be a challenge, as time is more limited, and funding is more difficult to obtain since most projects involve non-traditional research, compared to most scientific research and art research criteria. Despite this, the main reward is that we are always learning, we are part of a team, and collaborating with a diverse group of people on a daily basis. We can apply our scientific backgrounds and knowledge to cultural heritage, which is both challenging and exciting.

In your opinion, what kind of skills and training will be important for a successful career as a conservation scientist, as the heritage science field evolves? Where do you think the field is going - in other words, how is the landscape of the field changing? (i.e., types of analyses, skill sets and knowledge base required by emerging technologies, new ways of working)

Angelova

The skills I find consistently most relevant are (1) a really good understanding of how to conduct research, shape a project, read the literature critically, and report findings in an honest and accessible manner; (2) interdisciplinary understandings and creative thinking but with a solid grounding in chemistry, physics, biology (if the interest is in material heritage), or theory, math, computing, coding (if the interest is in digital or immaterial works); (3) computing skills in general – coding, computer visualization skills, digital humanities methods, stats. This last seems critical to me at the moment – so many of the projects passing our way involve computing skills, which are largely lacking in conservation and heritage science.

Casanova-González

I think that a strong scientific background is needed, preferably in chemistry or physics, along with experimental skills. The ability for interdisciplinary collaborative work is fundamental, one must be able to get out of the laboratory controlled conditions and understand the new questions and challenges of the field. As for the analyses needed, this is an ever-growing field and it is difficult to predict it but I think that the tendency will continue towards non-invasive and non-destructive techniques, along with improved classical analytical techniques that will require less and less amounts of sample.

Dooley

I would recommend getting a Ph.D. in a physical science. I think there will always be a need for light microscopy and knowing how to analyze small samples collected from a work of art, including doing SEM-EDS. As the field develops, computer science skills such as, for example, the ability to develop algorithms to automatically classify and identify materials or register multimodal data sets, will be more sought after, but there's still a long way to go before museums all have computer scientists on staff!

Maccarelli

I do believe that skills like analytical techniques, how good of a 'pair of hands' someone has, scientific knowledge - for example, of artists materials - as important as they are, can be learned in school and improved with time and experience. What I think is important but is not taught in class is to be a good and curious investigator, to search for the things that are 'non-visible' and not obvious. In addition, I have noticed from a scientific point of view, that occasionally a conservation scientist may lose the bigger picture, because we analyze micro samples. We must remember those samples come from an object as a whole.

In the future conservation science will likely incorporate the use of nanomaterials, eco-friendly products and more and more non-invasive techniques.

Ploeger/Shugar

A background in a pure science or engineering is still a critical foundation. Perhaps a background in physics is relevant more now than before, with the rapid advances in imaging technology. Good communication skills are also critical, since the cultural heritage community is made of people from diverse backgrounds. The conservation science field is rapidly evolving as it is quick to apply new advances in analytical technology from other disciplines, and to collaborate with professionals in different specialties. There are also trends towards no/minimal sampling, though there may always be a need to physically sample an object to get the best answer.

What makes you excited to go to work?

Angelova

The variety of projects I work on and the support and enthusiasm for heritage science research at The National Archives! The knowledge that I will learn something new, push a research project along, and speak with a variety of experts about really exciting ideas. I find my work endlessly stimulating, and the Archives offer seemingly infinite possibilities to explore – from iconic objects to mass collections, medieval to digital materiality, photography and film, wax, paper, textiles, pigments and dyes, design collections, manuscripts...

I absolutely love being based in the conservation studio, seeing the conservators every day, and adjusting our laboratory set-up and research aims to fit their needs and questions.

This year has been especially exciting because I have had the opportunity to become involved in a variety of projects that incorporate digital technologies, or touch on born digital or digitized heritage, an interest I had to shelve while getting a solid grounding in material science. It's really rewarding to be able to develop in a new direction entirely, years after finishing my education.

Casanova-González

This is closely related with the previous question, with the new challenges on each new research, but also with the possibility to travel around the country and know museums, archaeological sites, churches, where we conduct in situ analyses. The environment at the lab is also great, which makes really fun coming to work every day.

Dooley

I get to work on interesting questions and work with cool technology. Interpreting spectral features is stimulating and often challenging in complex systems. It's also fascinating when chemical images reveal something in an artwork that you can't see by eye and was previously unknown.

Maccarelli

I love to walk into a museum, either for work or for pleasure. The fact that you can go to the same museum more than once a year and see something different every time is exciting. For me this happens when I enter the lab also. I can walk into my lab and work almost every week on a different object from one of the conservation laboratories of the Conservation Center. Every question is different; every material is different. It also piques my curiosity how different artists use similar materials in so many different ways.

Ploeger/Shugar

As educators, we are happy to have great students around us, who are eager to learn. They bring challenging questions and curiosity every day. We also see a range of interesting objects and scientific problems.

As a conservation professional, how do you make a cross-disciplinary team work?

Angelova

Communication, close listening, and trust; outlining a clear strategy and common language at the start of the project, and allowing everyone the space to do the work they excel at, whilst offering opportunities for everyone to develop new skills in the disciplines relevant for the project. At the Archives, the Collection Care department hosts a monthly Research Forum and a Treatment Roundtable, where we discuss challenges, current projects, new ideas, or interesting conference talks and papers. These informal meetings allow us to learn from one another, take inspiration, and generate cross-disciplinary ideas.

Casanova-González

I always try to take into account the background and interests of every member of the group, and to make sure that we all learn from each other and that our questions are always answered.

Dooley

Be transparent and upfront with the expectations of the research project, responsibilities of the team members, and the expected outcomes of the interdisciplinary work, including where to disseminate the research results and who will be coauthors on an article/presentation.

Maccarelli

When a collaboration is formed between conservators, conservation scientists and curatorial staff, communication is the key. This sounds glib, but talking among all the professionals in a team is important. In addition to this communication, an important aspect is listening carefully to what a coworker is saying. Determine what the questions really are and what information has already been gathered by the team. Sharing of all the information among the team members is essential.

If I were to give any advice for future generations, it would be, 'expect the unexpected'. Take a deep breath and remember you can make it work. Be versatile. Do not let the first problem be unsurmountable; there is always a solution, conservators are amazing.

Ploeger/Shugar

Communication. One needs to be open, patient, and be able to share thoughts and research accomplishments. One also needs to be flexible with both listening and writing; adapting one's language to a group to ensure everyone understands, feels included, and confident in their roles.

Working Group Interim Report

The Scientific Research Working Group has been very active during the 2017–2020 triennial period. It has focused on increasing communication channels by establishing a Facebook page, organized an interim activity about issues for emerging professionals in collaboration with Science and Engineering in Arts, Heritage and Archaeology (SEAHA, University College London), and prepared for the conference in Beijing.

Communication and Membership

A Facebook page was established in January 2018 to increase communication; the number of followers has grown quickly to more than 1600 and counting. The Facebook page has been an essential tool to disseminate information of interest to our members and those interested in our field of specialty and work. Other communication channels have included issuing two Newsletters during the triennium, which are available for download from the ICOM-CC website, and periodic emails to keep members abreast of topics of interest, including opportunities and upcoming conferences. The Working Group, with an active and diverse membership, has seen an increase to over 200 members.

Interim Activity: Roundtable for Emerging Professionals

The interim activity, Roundtable for Emerging Professionals, was held during the 4th SEAHA conference in London, UK, on 6 June 2018. Both the roundtable and the SEAHA conference, which ran from 4–6 June, were hosted by the University College London (UCL). The roundtable focused on a variety of topics related to career development for young professionals.

The diverse panel was composed of a range of experts including academics, conservators, scientists, and consultants. Over the course of two hours, the panel shared their experiences and tips on career development, and fielded questions from the audience for further discussion. Some of the topics discussed were:

- the role of industry and entrepreneurship in heritage science;
- career progression in the heritage science field;
- how to balance priorities from different stakeholders;
- the changing landscape of funding resources.

The roundtable was recorded and can be viewed at the following link:

https://www.youtube.com/watch?v=H0Zo3_BCRQs

Beijing Triennial Conference

The Working Group received 41 abstracts for papers, of which 16 were chosen after peer review of the full papers for the Triennial Conference, which will be held in 2021 in Beijing. There were also 34 poster submissions, with 12 selected. There were many paper and poster submissions with scientific components in the other Working Groups; the ICOM-CC 19th Triennial Conference in Beijing will be very exciting, with many interesting scientific-leaning topics. Please see the Coordinator's Welcome for the list of accepted contributions to the working group.

For more information on the Conference, visit: www.icom-cc2020.org.

**ICOM-CC/Getty International Program
Recipients to the ICOM-CC 19th
Triennial Conference**

Beijing, China, 17-21 May 2021

We are excited to showcase some of the ICOM-CC/Getty International Program participants! Below are those who have an oral or poster contribution to the Scientific Research Working Group or in another working group with strong scientific-related topics. Also profiled here are participants who have strong scientific backgrounds and interests. You can find the entire list of participants: (<http://www.icom-cc.org/383/-getty-foundation-international-program/-getty-foundation-international-program-icom-cc-19th-triennial-conference-2021/#.Xzr4en57lph>)

Davison CHIWARA, Zimbabwe

Cultural Heritage and Museum Studies, Midlands State University, Gweru

I am currently a lecturer in the Department of Archaeology at the University of Pretoria, South Africa, in Heritage and Museum Studies where I am also a Ph.D. candidate. My research focuses on the conservation of heritage and museums and gallery practice. I have presented several research papers at the American Institute of Conservation (AIC) Annual Meetings; International Institute of Conservation (IIC) Congresses; Culture in Crisis Conference; Getty Conservation Institute (GCI) Living Matter Symposium and other regional conferences on cultural heritage management in Africa. I have published my research works with the Museum International Journal and Studies in Conservation of the International Institute of Conservation.



Davison Chiwara

For the Beijing Conference, I have co-authored a poster in the Preventive Conservation Working Group entitled: "Interdepartmental Collaboration in the Conservation of Vintage Cars Collection at the Museum of Transport and Antiquities, Zimbabwe".

ICOM-CC Working Group interest: Preventive Conservation; Natural History Collections; Modern Materials and Contemporary Art; Scientific Research.

Ana Carolina DELGADO VIEIRA, Brazil

Museu de Arqueologia e Etnologia, University of São Paulo, São Paulo

I received a Bachelor's and Master's degree in History from the University of São Paulo and a specialization in conservation of archaeological materials from Yachaywasi Institute of Conservation in Lima, Peru.

Since 2008, I have been a conservator at the Museu de Arqueologia e Etnologia (MAE) at the University of São Paulo (USP). At MAE, I am responsible for conducting condition surveys of collections and individual objects, technical analyses, and conservation treatments. I also prepare collection objects for exhibition, loan, transport, and research. I have been the head of conservation since 2013.



Ana Carolina Delgado Vieira

My current research interests is in topics related to interdisciplinary collaboration, indigenous participations and how conservators can help to reframe ethnographical traditional museums through collaborative work with originators or descendants of originators of indigenous collections in Brazil.

Since 2018 I have been carrying out research projects in association with the Instituto de Pesquisas Energéticas e Nucleares (IPEN) for the use of ionizing radiation for the preservation of cultural heritage. I am Assistant Coordinator in the ICOM-CC Objects from Indigenous and World Cultures Working Group.

For the Beijing Conference, I am on a team of authors who will present a poster in the Objects from Indigenous and World Cultures Working Group entitled: "Gamma irradiation applied to conservation: effects of ionizing radiation on the color of featherwork".

ICOM-CC Working Group interest: Archaeological Materials and Sites; Glass and Ceramics; Textiles; Metals; Objects

from Indigenous and World Cultures; Wet Organic Archaeological Materials

Abdelaziz ELMARAZKY, Egypt

The Grand Egyptian Museum- Conservation Centre (GEM-CC), Giza

I obtained a Bachelor degree from the Faculty of Archaeology, Conservation and Restoration Department - Cairo University. Since 2015, I have worked as a conservator in the Grand Egyptian Museum – Conservation Centre (GEM-CC). My interests include conservation of ancient Egyptian metal objects, revealing new secrets of manufacturing technology, preventive conservation and identification of unusual corrosion products on copper and bronze objects. In 2017, I conducted a research project about gap fillers for brittle metal objects in the conservation laboratory of the Japanese Institute of Anatolian Archaeology (JIAA) in Kaman-Kalehöyük, Turkey. In 2018, I was part of the UNESCO/Poland Co-sponsored fellowship programme in Conservation and Archaeology and also trained in conservation laboratories in Polish museums. I just became a Heritage Science scholar in Egypt-Japan University of Science and Technology (E-Just).



Abdelaziz Elmarazsky

For the Beijing Conference, I am on a team of authors who will present a poster in the Metals Working Group entitled: “The diagnostic techniques of gilded bronze figures of the god Osiris” and I will present my paper entitled: “Pale Blue Corrosion Product on Ancient Egyptian Objects: New Perspective to Identification” in the Metals Working Group.

ICOM-CC Working Group interest: Metals; Preventive Conservation; Ceramic and Glass; Scientific Research

LIU Jian, China

China National Silk Museum, Hangzhou

I obtained my BS (2004) and MS (2011) degrees in applied chemistry from Zhejiang Sci-Tech University in Hangzhou, China. At present, I am a Ph.D. candidate of department of applied chemistry in Zhejiang University of Technology. I joined department of exhibition at China National Silk Museum (CNSM) in 2004, and in 2011 I changed to the department of textiles conservation where I am currently Senior Researcher and Deputy Head of the textile conservation department.



Liu Jian

In 2012, as a visiting scholar, I worked in the Department of Chemistry at Boston University, where I analyzed natural dyes of archaeological textiles from Yingpan, Xinjiang using HPLC-DAD-MS, along with my co-workers, Prof. Dr. Richard Laursen and Dr. Chika Mouri. My focus is on the identification of flavonoid-based dyes discovered on the Silk Road, using LC-MS and SERS. I am also interested in the reconstitution of historical colours based on scientific and documentary evidence. I organized the international symposium entitled “Colorful World: Natural Dyes” at CNSM in 2019, which attracted about 200 participants from 20 countries.

ICOM-CC Working Group interest: Textiles; Scientific Research

Lone Michelle MONAGEN, Botswana

Botswana National Museum And Monuments, Gaborone

I have a Bachelor of Science degree in Biology and Chemistry from the University of Botswana. I am employed at Botswana National Museum and Monuments in the Conservation Unit. My duties include, amongst other things, formulating treatment modalities and implementation of conservation strategies suitable for collections, inspecting, monitoring, documentation, analysing and restoration of the national collection (ethnography and history) and monuments.

I am currently working on the Ditso Digitization project which involves digitization of all movable and immovable collections under the custody of Botswana National Museum and Monuments.



Lone Michelle Monagen

ICOM-CC Working Group interest: Preventative Conservation; Documentation; Scientific research

Bradley MOTTIE, South Africa

Iziko Museums of South Africa, Cape Town

I am currently employed at the Iziko Museums of South Africa as Preventive Conservator in Collections and Digitisation Department. Among my responsibilities are the care of collections, the monitoring of collections and environmental conditions, conservation budget management, supervision of staff, and training of intern. I also manage the preservation of the collections in the institution's centralised storage facility and collections on exhibition at 11 other museum sites. My first degree is in earth science and applied nuclear physics, and I have experience in conducting field sampling, writing technical reports, drafting all incoming and outgoing condition reports, as well as scheduling reports for the Conservation Section. I also hold post graduate degrees in materials science, applied nuclear physics and technical conservation studies.



Bradley Mottie

My principal focus is and has always been to constantly acquire knowledge in the various fields of conservation so that I can impart or empower the younger generation in

South Africa. Over the past twenty years, I have attended numerous training activities and internships at the University of Cape Town and the South Africa Library of Parliament to acquire hands-on experience in the field of conservation.

ICOM-CC Working Group interest: Metals; Wood, Furniture and Lacquer; Documentation; Education and Training in Conservation; Preventive Conservation

Ali NASIR, India

Indira Gandhi National Centre for the Arts, New Delhi

I hold a Ph.D. degree from the National Museum Institute, New Delhi. Under this Ph.D. program, I focused on the historical development of carpets and scientific analysis of natural dyes from 17th to 19th century carpets. I am currently adjunct faculty at Indira Gandhi National Centre for the Arts (IGNCA) and the National Museum Institute. I am a conservation consultant for Konserv Bhaav and work on the conservation of tapestries designed by Le Corbusier. I also collaborated in the Managing Risks in Cultural Heritage program, working towards a sustainable conservation of cultural heritage organized by IGNCA.



Ali Nasir

Part of my work was the reorganization of storage and preventive conservation at National Handloom and Craft Museum, New Delhi, with a team from ICCROM and UNESCO. From 2013-2014, I received the Eurasia Pacific Uninet (EPU) Scholarship to study at Institute of Conservation, University of Applied Arts Vienna, Austria.

I have also co-authored a book on conservation, Harappan Pottery: Archaeology Techniques and Its Conservation, and have also published several research articles. I curated an International exhibition entitled, Rare Tribal Carpets: Perfectly Imperfect Weaves at India International Centre, New Delhi, and at India Habitat Centre, New Delhi. I am a member of International Council of Museum (ICOM), Museum Association of India (MAI) and Indian Association for the Study of Conservation of Cultural Property (IASC). I am currently an Assistant Coordinator of the ICOM-CC Textiles

Working Group. In the past, I have been the recipient of international grants to attend international conferences and workshops.

ICOM-CC Working Group interest: Textiles; Scientific Research; Preventive Conservation; Education and Training in Conservation

TANG Huan, China

Three Gorges Museum, Chongqing City

I am a professor at the Three Gorges Museum, one of the largest museums in China. I am also Deputy Director of “Key Scientific Research Base of Pest and Mold Control for the Heritage Collection of National Cultural Heritage Administration”. For many years before coming to work in the museum, I taught in a medical university. That’s right! I am a doctor of pathology and pathophysiology. But then, I got a new identity—another “doctor”: a doctor of cultural relics.



Tang Huan

Treating cultural relics as patients and contributing to being able to bridge the gap between two fields. Now, my team members and I are dedicated to research on biological deterioration in organic collections with a focus on mold and insects. The use of essential oils as fumigants both in the preservation environment and the surface of cultural relics is a major feature in our work. Over the past five years, I have completed two provincial and ministerial research projects and published thirteen papers in the area of Integrated Pest Management. At the same time, there were fourteen utility model patents and one invention patent that were granted. For the Beijing Conference, I am on a team of authors who will present a paper in the Scientific Research Working Group entitled: “Study on Rapid Detection Methods of Mold Contamination of Paper Relics Based on E-nose Technology”.

ICOM-CC Working Group interest: Scientific Research; Preventive Conservation; Objects from Indigenous and World Cultures; Textiles

ZHANG Huan, China

Guangdong Museum, Guangzhou

I am Head of the Guangdong Conservation Centre at Guangdong Museum. I hold a BSc degree in Conservation and Scientific Research from Northwest University, Xi’an, and a Master’s degree in Cultural Heritage and Museology from Sun Yat-Sen University, Guangzhou. I have been working on scientific conservation at Guangdong Museum since 2003. In 2015, I was named an Elite Young Scholar of Guangdong Province.



Zhang Huan

I participated in the eight-month Sino-Italian Cooperation Training Programme in 2007, learning conservation and restoration of paper artefacts. I attended the British Museum’s International Training Programme 2015 held in the UK for six weeks, engaging in a full range of museum activities and conservation practices.

I have been involved in many conservation and research projects, specifically focused on metal collections, paper artefacts and marine archaeological objects. Additionally, I carry out the preventive conservation of museum collections. I have recently completed a study on laser cleaning of surface sediments on marine archaeological porcelains, supported by the Guangdong Administration of Cultural Heritage, and a project of conservation on marine archaeological objects from a 16th century shipwreck, supported by the U.S. Ambassadors Fund for Cultural Preservation.

ICOM-CC Working Group interest: Art Technological Source Research; Modern Materials and Contemporary Art; Preventive Conservation; Scientific Research