Expert Workshop

JPI Cultural Heritage (CH) – JPI Climate

Cultural Heritage and Climate Change:

New challenges and perspectives for research

17 September 2020

Workshop Summary

Prepared by

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EXECUTIVE SUMMARY

This online workshop was co-organised by the JPI Cultural Heritage and the JPI Climate. The aim was to identify and discuss potential cross-priorities for research that could benefit from joint actions.

Participants were invited to discuss in separate sessions two main topics:

- The impact of climate change on cultural heritage
- The opportunities for climate mitigation and sustainable development

They identified ten key issues highlighting the barriers, needs and opportunities regarding cultural heritage and climate change, that could be addressed in the future. These key issues cover a broad range of topics, from basic research to climate policy frameworks.

Participants also made several recommendations which could be implemented through collaboration between the two JPIs.

A White Paper on these issues and recommendations will be presented in the near future.

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INTRODUCTION

Climate change is having an increasing and lasting impact on our environment and society. Cultural heritage is in no ways spared: with hotter and drier summers and warmer and wetter winters, with the increasing frequency of extreme weather events and with sea level rise, tangible and intangible assets are exposed to new risks and their vulnerability is far greater. Researchers have already begun to investigate the impacts of climate change, but there is still a lot to be done to complement existing findings and to ensure that these contribute to future prevention and adaptation policies.

Yet, if cultural heritage is often described as being challenged by climate change, global agreements - such as the 2015 Paris Agreement and the 17 UN's Sustainable Development Goals (SDGs) - acknowledge its potential to play an active part in the transition towards more sustainable models. Many opportunities have arisen from research, and many are still to be discovered. Research must further explore how to make cultural heritage a readily available resource for climate mitigation and sustainable development.

The collaboration between the JPI Cultural Heritage and the JPI Climate began in April 2019 when delegations from both initiatives met in Dublin to explore areas of shared interest and potential cooperation. This led to the organisation of this expert workshop, the aim of which being to identify and discuss potential research cross-priorities that could benefit from joint actions. The workshop was initially planned to take place in Paris in April 2020 but, due to the COVID-19 crisis, it was eventually organised online on 17 September 2020. Two main topics were discussed:

- The impact of climate change on cultural heritage,
- The opportunities for climate mitigation and sustainable development.

The workshop addressed these topics in two separate sessions, each one being introduced by keynote speakers (presentations slides available here) and followed by discussions held on the following questions:

- What are the main priority research themes regarding this topic?
- Could the research that has already been undertaken in the fields of cultural heritage and climate benefit from further investigation?
- Which are the main scientific obstacles that need to be overcome, and which are the research gaps that need to be filled?
- How could the two JPIs collaborate to foster interdisciplinary basic and applied research which would benefit our society?

The outcomes of the workshop will contribute to the drafting of a joint White Paper which will present propositions for the development of new European research policies in the field of cultural heritage and climate change. The White Paper will be implemented in the next two to three years by diverse funding and cooperation instruments (calls, think tank, etc.).

SUMMARY OF THE WORKSHOP

SESSION 1: THE IMPACT OF CLIMATE CHANGE ON CULTURAL HERITAGE

Keynote speakers:

Andrew Potts, International Council on Monuments and Sites (ICOMOS): *ICOMOS report Future of Our Pasts: Engaging Cultural Heritage in Climate Action; The European Heritage Green Paper.*

Sandra Fatorić, Marie Skłodowska-Curie Fellow, Delft University of Technology (TU Delft), Faculty of Architecture and the Built Environment (The Netherlands): *Facilitating climate adaptation policy for cultural heritage*.

Chair and discussant :

Aurélie Verney-Carron, Laboratoire Interuniversitaire des systèmes atmosphériques (LISA/UMR CNR/U Paris/UPEC, France)

The first session enabled to determine the current state-of-play regarding cultural heritage and climate change. Particular attention was paid to impact assessment and climate adaptation needs. The following seven main issues were highlighted during the speeches and discussions:

1. Climate policy frameworks often overlook the role of cultural heritage in climate action.

- **Climate change is an emergency and requires a rapid, fair and realistic transition**. **However, cultural heritage is not fully engaged in climate action.** The Intergovernmental Panel on Climate Change (IPCC), which is the leading authority on climate science, has not comprehensively assessed the impact on cultural heritage, nor the potential of social sciences and humanities to contribute to climate action. Similarly, cultural heritage has not engaged enough with climate science and the heritage community is not yet fully aware of the urgency of taking action.
- **At the international level, things are changing.** Since 2017, ICOMOS has undertaken considerable efforts to mobilise the cultural heritage sector in climate action**.** In 2019, it published a report[1] highlighting the impacts of climate change on cultural heritage, but also the potential of cultural heritage for climate action. To address the current disengagement of cultural heritage experts in the IPCC, ICOMOS will also co-sponsor an IPCC expert meeting on cultural heritage which will address five main topics:

[1] *The Future of Our Pasts: Engaging Cultural Heritage in Climate Action, Heritage and Climate change outline*, ICOMOS, 2019: https://www.icomos.org/en/focus/climate-change/59522-icomos-releases-future-of-our-pasts-report-to-increase-engagement-of-cultural-heritage-in-climate-action

- Systemic connections of culture, heritage, and climate change,
- Cultural governance,
- Loss, damage, and adaptation for cultural heritage,
- Capacity to learn from the past,
- The roles of Culture and Heritage in transformative change and alternative sustainable futures.

- **Cultural heritage needs to be included in the European Green Deal framework.** The European Green Deal does not mention cultural heritage at all. ICOMOS is currently partnering with Europa Nostra to produce a Green Paper on the role of cultural heritage. This paper will contain a dedicated chapter on mobilising research and fostering innovation to better include cultural heritage in the platforms working on the design and implementation of the Green Deal.

- **The cultural heritage sector has begun to structure itself in order to promote its capacity to contribute to climate change policies.** In 2019, the Climate Heritage Network was launched to increase the involvement of the heritage community in achieving the goals of the Paris Agreement. The network is preparing the COP26 which will be held in Glasgow in November 2021, and which will provide the opportunity to put the topic of cultural heritage onto the international agenda.

2. The cultural heritage sector faces a lack of climate adaptation policies.

- **The cases of the Netherlands and the US show that, according to experts, the most critical barriers to climate adaptation for cultural heritage are institutional and technical.** In the Netherlands, experts have identified the lack of a climate adaptation policy as the most crucial obstacle, which also seems to be the case in the United States. The lack of knowledge on topics such as climate change risks, the identification of what to preserve or transform, and energy transition impacts, or the lack of awareness about heritage benefits are also reported as impeding climate adaptation. These barriers are interdependent on each other but also on social and financial ones.

- **Climate adaptation in the field of cultural heritage has been underexplored in comparison to other sectors**. Since the IPCC released its first report in 1990, climate adaptation research, practices and policies have been ongoing in various sectors (agriculture, health, transportation…). However, research on cultural heritage adaptation is still limited and has been mainly focusing on assessing and identifying risks and vulnerabilities. Little has been done to prepare adaptation planning, implementation, and

governance.

3. Heritage science needs more advanced climate modelling.

- **Research requires more climate data and models to produce detailed climate scenarios and investigate the impact of climate change on cultural heritage**. Better cooperation between heritage science and climate science could answer these needs. Cultural heritage requires outputs from climate models which can allow:
    - **Downscaling.** Projects such as Noah's Ark, Climate for Culture or ProteCH2Save[2], have already made significant improvements in increasing the spatial resolution of climate models. Researchers must pursue their efforts to assess comprehensively the vulnerability of heritage sites.
    - **Long-term predictions.**
    - **Predictions of new and unfamiliar risks.** With a changing climate, some countries and regions will deal with unprecedented hazards that may endanger cultural heritage (e.g. wildfires in Ireland).
    - **Predictions of extreme weather events (winds, precipitations, floods, combination of frost cycles)**. More regional climate modelling is particularly needed.
- **Climate data must be underpinned by local data**. The experience of site managers and local stakeholders and their ability to provide hard data on climate whilst monitoring heritage sites and artefacts can be crucial to calibrate climate modelling. They can help validate climate models by sharing their onsite experiences.
- **Cultural heritage can provide a variety of data which can enrich climate models**. Heritage science involves a broad range of stakeholders, from physical scientists to social scientists. One aspect which must be further explored by research is how qualitative and observations data, but also insights from traditional and indigenous knowledge, could be integrated to enrich hard scientific data on climate change.
- **Heritage science needs consistent, comparable, and reliable data.** Different data sets can lead to different assumptions on climate scenarios. How to guarantee consistency across heritage practices? Which data sets and climate scenarios researchers should use? These must be assessed to facilitate data reuse and insure confidence in their reliability.

[2] These are European projects which were financed under the Sixth and Seventh Framework Programmes (Noah's Ark, 2004-2007; Climate for Culture, 2009-2014) and the EU cohesion policy programme INTERREG Central Europe (ProteCH2save, 2017-2020).

4. Heritage research requires more tools and knowledge to improve the prediction of impacts.

- **From climate modelling, research on cultural heritage must move to damage measuring.** There is a need to develop damage functions, dose-response functions and other tools, to monitor impacts integrating cultural heritage specificities. Vulnerability indicators are much needed, especially for heritage assets which are particularly exposed to extreme weather events[3]. Besides, current research overlooks topics such as impact and preservation of buried heritage**.**
- **Better access to existing infrastructures providing data for climate studies is also needed.** Programmes and infrastructures such as COPERNICUS and INSPIRE[4] give a long series of measurements relevant for climate studies. Providing heritage science with better access to spatial services would help to address the lack of data, and it would be particularly interesting to monitor the water level rise[5]. Climate science and heritage science, using data from the same framework, would facilitate exchanges between the two scientific communities.

5. There is a need to fill the gaps between research, practice, and decision-making.

- **Research should move from a fundamental approach to a user-delivering approach.** In many cases, sites managers and heritage professionals are already facing the impact of climate change, and they can find it challenging to act with the data currently provided by research. Site managers need rapid and operative data which can be adapted to their specific situation. Cooperation and partnerships between researchers and local stakeholders must be strengthened to address the needs of 'frontline' communities. It would enable the co-creation of valuable knowledge and adaptation solutions.

[3] The project ProteCH2save has been focusing on this issue in Central Europe and has developed a GIS Tool for Risk mapping: https://www.protecht2save-wgt.eu/

[4] COPERNICUS is the European Union's Earth Observation Programme: https://www.copernicus.eu/en/about-copernicus. INSPIRE is a European Spatial Data Infrastructure 'for the purposes of EU environmental policies and policies or activities which may have an impact on the environment': https://inspire.ec.europa.eu/

[5]. A report was published in 2019 to support the European Commission in its assessment on the possibility of promoting the use of COPERNICUS data for Cultural Heritage preservation, monitoring and management : https://op.europa.eu/fr/publication-detail/-/publication/220f385f-76bd-11e9-9f05-01aa75ed71a1. The project STRENCH (INTERREG Central Europe, 2020-2022) was also cited as it is currently working with COPERNICUS on satellite data and services meeting the heritage science needs: https://www.interreg-central.eu/Content.Node/STRENCH.html

- **Research could investigate the systematisation of individual experiences**. Research should focus on potential commonalities in existing case studies and reflect on transposable 'best' practices.
- **Research should feed into different models for Disaster Risk Management.** Site managers and heritage professionals who work with cultural heritage assets that are vulnerable to extreme events need data designed to develop plans that can be divided into different phases: preparatory, under emergency and recovery. Besides, research should not overstate the capacity of particular items to adapt: some sites may be lost or irreversibly damaged, and the 'Building back better' manifesto is not valid in the framework of cultural heritage because of the specific requirements of heritage assets. It would also be interesting to reflect on how to integrate and deal with uncertainty in adaptation strategies.
- **Research should provide specific resources to policymakers**. Research should focus on what is needed to engage decision-making and address the lack of adaptation policy. It could investigate efficient methods and measures for adaptation, provide guidelines on what is technically feasible (or not), collect and document case studies in a way that makes them easier to be shared with policymakers. Furthermore, local communities often lack resources to assess climate change impacts and adopt good practices. Providing policymakers with resources to acknowledge the needs of the heritage community would be of great help.

6. Research should enlarge its scope to identify better adaptation practices.

- **Traditional and nature-based practices could feed into adaptation strategies**. Whether applied to tangible or intangible heritage, traditional methods can provide inspiring insights when designing adaptation strategies as they rely on resources available locally. However, researchers should be aware of the limits of such methods. Another area of knowledge which could be further explored is natural sciences. Though belonging to different scientific domains, languages and traditions, nature and culture are often entangled (cultural landscapes), and efforts must be made to better include the nature-culture approach.
- **There is a necessity to investigate the environmental impacts of heritage practices and maladaptation risks.** Research must consider the possible negative environmental impacts of adaptation, conservation, and restoration practices and should favour green conservation and identify the most sustainable solutions. The case of digital preservation could be worth studying as its carbon footprint has increased over the years. Maladaptation is also an important issue. It should be better documented to prevent adaptive practices which may endanger the integrity and social significance of cultural

heritage assets irreversibly.

7. Cultural heritage can empower social resilience to climate change.

- **Climate change can impact social cohesion through cultural heritage**. Cultural heritage both reflects and shapes traditions, values and beliefs which define who we are and the communities we create. Thus, how do our societies react when climate change challenges our common cultural references? Research should empirically assess the effects on society of loss, change and renewal of cultural heritage. Moreover, climate change can force populations to migrate, thus bringing people with potentially conflicting values and traditions to live together[6]. To ensure social cohesion, it is of paramount importance to emphasise the ability of cultural heritage to support integration and inclusion. Research should also explore other topics regarding migrating populations: how to deal with the tangible assets people left behind? How could their experience of resilience benefit other communities to tackle climate change[7]?
- **The cultural dimension of climate change can address the gap in the planet's response to adaptation and mitigation**. Climate change is an anthropogenic problem and requires anthropogenic solutions, namely solutions which are rooted in the culture and values of people.
- **Cultural heritage can enhance climate resilience and support societal transformations.** Cultural heritage includes tangible and intangible assets which have succeeded in maintaining a form of continuity, absorbing diversity, or evolving in changing contexts. They can provide instances of how to act and recover from disasters and how to adapt through creative transformation to maintain development. Preserving cultural heritage in the face of climate change can also bring emotional and psychological support while engaging a profound societal transition[8].

[6]. The following policy brief was shared on this topic: https://usicomos.org/important-opportunity-to-contribute-heritage-solutions-to-the-issue-of-climate-change-and-community-displacement.

[7] The project RURITAGE (H2020, 2017-2020) was also cited as it focuses on migration as one of the main Systemic Innovation Areas to foster rural regeneration through cultural and natural Heritage: www.ruritage.eu

[8] The following article was shared on this topic: Cornelius HOLTORF, "Embracing change: how cultural resilience is increased through cultural Heritage", *World Archaeology*, 2018, vol 50, n° 4, p. 639-50, DOI: 10.1080/00438243.2018.1510340

SESSION 2: OPPORTUNITIES FOR CLIMATE MITIGATION AND SUSTAINABLE DEVELOPMENT

Keynote speaker:

Menne Kosian, Cultural Heritage Agency of the Netherlands, Landscape Department:
Exploiting cultural heritage and heritage knowledge for climate adaptation strategies.

Chair and discussant:

Sandra Fatorić, Marie Skłodowska-Curie Fellow, Delft University of Technology (TU Delft), Faculty of Architecture and the Built Environment

The second session mainly focused on the potential of cultural heritage to be an asset for climate adaptation and mitigation.

8. Cultural heritage can contribute to documenting climate change and finding adaptive solutions.

- **The past has much to offer in predicting climate change**. There are several periods when people faced and adapted to extreme weather events, with similar peaks and even higher frequencies. These past events can provide researchers with information and data to help build climate models. Research could investigate different types of heritage assets (such as old cemeteries, maps, wooden beams from ancient buildings or archaeological collections) to provide these data[9].
- **Cultural heritage includes many examples of adaptive practices that we can investigate.** If we can find records of similar past events, we can find experiences and methods which can feed our adaptation strategies. For instance, medieval water-side cities around the world have been dealing with and adapting to water level changes for centuries. Their legacy in water adaptation and water management has much to provide to enhance climate adaptation.
- **Reusing is protecting.** Ensuring the protection of cultural heritage assets sometimes means giving them a new meaning**.** On the one hand, we can retrofit infrastructures to have them perform the function they were conceived for (e. g. cisterns in Istanbul and Copenhagen). Yet, on the other hand, some could also be reused for an entirely different

[9] The following article was cited on this topic: Frankie St. Amand, S. Terry Childs, Elizabeth J. Reitz, Sky Heller, Bonnie Newsom, Torben C. Rick, Daniel H. Sandweiss and Ryan Wheeler, "Leveraging legacy archaeological collections as proxies for climate and environmental research", *Proceedings of the National Academy of Sciences of the United States of America*, 2020, vol. 117, n° 15, p. 8287-94; https://doi.org/10.1073/pnas.1914154117

purpose (e.g. cold war shelter absorbing water to prevent flooding). Research must explore new ways of using cultural heritage to generate sustainable benefits in society. New functions can give them a new meaning for local communities.

- **Some historical data are already interpretable but underexploited**. Modern engineers, climate scientists and technicians in public administrations overlook archived documents, maps, plans, and other historical data which could be very valuable. The main challenges are to provide better access to these data and to encourage those concerned to exploit this material in their practical work.
- **Heritage science should reflect on how it can be valuable to other sectors.** The heritage community should not focus only on making people understand why cultural heritage is important and why it should be protected at all costs. It should further explore how cultural heritage interconnects with fields which are shared with the climate community, such as health and citizens' well-being. Research could investigate how cultural heritage can contribute to the UN's Sustainable Development Goals.

9. Cultural heritage can generate ambivalent responses to climate adaptation.

- **The cultural heritage sector should not take for granted that conservation and promotion of heritage assets necessarily benefit climate adaptation and mitigation**. Preserving heritage assets (tangible or intangible) at all costs can be an obstacle to climate adaptation and mitigation. People need to accept the possible consequences of decisions which, in our case, may result in using cultural heritage in different ways. Research must try to overcome these possible barriers by evaluating future impact and potential risks of a variety of uses of cultural heritage.
- **Cultural heritage can trigger people to take action**. People usually care for the tangible and intangible heritage characterising the place where they live. By making them aware of the risks and vulnerabilities which may endanger their homes and heritage, they may be encouraged to engage in climate adaptation actions (e.g. citizen water brigade in Kampen, Netherlands).

10. Cultural heritage can be an asset for climate mitigation.

- **Cultural heritage can help to reduce greenhouse emissions and mitigate climate change.** Retrofitting existing buildings avoids having to build new ones and, thus, their carbon costs. Yet, existing buildings must adapt to energy efficiency norms and find a

balance between the demands of modern comfort and their historical authenticity. Historical gardens can also help to preserve biodiversity and reduce emissions through carbon sequestration, especially in urban environments**.** Heritage research should investigate this topic in partnership with environmental researchers.

- **Cultural heritage can guide the transition towards more sustainable practices and models.** Research on historical buildings materials can be highly valuable for the construction sector adaptation. Historical buildings can provide data on how sustainable materials (e.g. wood) age and evolve in changing contexts. These materials can be reused to avoid the use of new and sometimes incompatible modern materials. Furthermore, traditional skills could inspire good practices and be reused for creation rather than restoration only. They are often adapted to the place where they were developed and can present interesting low-carbon alternatives to less sustainable practices. Cultural heritage is also an asset which can easily exemplify circular economy models.
- **Cultural heritage should investigate how its practices can be sustainable.** Extensive storage of data can have negative environmental impacts. Heritage science should reflect on what should be preserved and transmitted to future generations but also on sustainable and low-carbon ways to achieve it. Life Cycle Assessment methodologies for intervention on cultural heritage, adaptation measures and renovation should also be further explored and documented.

CONCLUSION AND RECOMMENDATIONS

The workshop identified ten key issues which will feed into the future joint White Paper on cultural heritage and climate change. In coming months, the JPI CH and the JPI Climate will set up a dedicated group which will further investigate barriers, gaps and opportunities and propose thoroughly scoped research priorities and concrete pathways for action.

Eight recommendations, regarding the role that the JPIs could play together, also came out of the discussions. The JPIs will further examine these to see what can be integrated into the frame of their collaboration and in the different instruments that will be used to implement the actions identified in the White Paper:

1) JPI CH and JPI Climate should work together to ensure that the topic of cultural heritage and climate change is highlighted in the frame of events such as the next European Climate Change Adaptation (ECCA) conference (Brussels, 2021) and the COP26 (Glasgow, 2021). These events will be opportunities to reaffirm the ability of cultural heritage to contribute to climate action.

2) Both JPIs should ensure that the policy momentum behind cultural heritage and climate change is followed by the enhancement of research funding programmes addressing critical science gaps as identified by the IPCC.

3) Both JPIs should further examine research priorities which could benefit from the organisation of a joint call.

4) Both JPIs should encourage interdisciplinary approaches and foster partnerships between different fields of science, such as heritage science and climate science. It would help to address knowledge gaps whilst tackling climate change, but also to develop a common paradigm. Better cooperation between heritage science and climate science could be evaluated through indicators such as the number of articles and peer reviews assessed by the IPCC, the number of cultural heritage experts involved in IPCC processes (authors, reviewers) or the number of mentions of cultural heritage in climate policy frameworks and instruments (NDCs, Adaptation frameworks, EU Green Deal implementation instruments).

5) Both JPIs should work closely with NGOs to provide resources and training opportunities at local level. Frontline communities need help to address the challenges of impact assessment and climate action.

6) Both JPIs could support the creation of a Heritage Climate Observatory (virtual or physical) which would gather and share information on culture heritage and climate change. This platform would facilitate the collecting, monitoring and evaluation of data from different sources, over time and in various regions, whilst providing easier access to all involved stakeholders who would need them. JPIs could develop this observatory in partnership with the platform developed by the H2020 REACH project.

7) Both JPIs should join efforts to help researchers identify how cultural heritage can be useful to meet other sectors priorities and contribute to achieving sustainable goals, such as health, well-being, social cohesion or in-depth societal transformations.

8) Both JPIs should work jointly to support the implementation of the Horizon Europe mission area 'Adaptation to climate change, including societal transformation'. Cultural heritage can improve climate resilience and help societies move towards more sustainable models. Both JPIs should support research on cultural heritage which contributes to the fulfilment of this mission, and promote good practices that can be transposed, on a far wider scale, within this framework.

ANNEX

Workshop Agenda

List of Participants

JPI CULTURAL HERITAGE/ JPI CLIMATE JOINT EXPERT WORKSHOP

CULTURAL HERITAGE AND CLIMATE CHANGE:

NEW CHALLENGES AND PERSPECTIVES FOR RESEARCH

Workshop Agenda

Thursday 17 September 2020 – Virtual Meeting

9.00 – 9.30	**Welcoming**
	Introduction from the JPI Climate Chair, Franck McGovern
	Introduction from the JPI Cultural Heritage Chair, Pascal Liévaux
9.30 – 10.30	**Keynote speeches**
	Andrew Potts, International Council on Monuments and Sites (*ICOMOS*): ICOMOS report « Future of Our Pasts: Engaging Cultural Heritage in Climate Action »; « The European Heritage Green Paper ».
	Isabelle Anatole-Gabriel, Europe and North America Unit, World Heritage Centre, UNESCO: « Risks anticipation, assessment and management strategies for World Heritage Sites ».
	Sandra Fatorić, Marie Skłodowska-Curie Fellow, Delft University of Technology (TU Delft), Faculty of Architecture and the Built Environment (The Netherlands): « Facilitating climate adaptation policy for cultural heritage ».
10.30 – 10.45	***Break***
10.45 – 12.30	**Session 1: Impact of Climate Change on Cultural Heritage**
	Moderator : Aurélie Verney-Carron, Laboratoire Interuniversitaire des systèmes atmosphériques (LISA/ UMR CNR/U Paris / UPEC, France) *- What are the main priority research topics regarding this theme?* *- Could the research that has already been undertaken in both cultural heritage and climate benefit from a further investigation?* *- Which are the main scientific obstacles that need to be overcome and which are the research gaps that need to be filled??* *- How could the two JPIs collaborate to foster interdisciplinary basic and applied research which would benefit our society?*
12.30– 14.00	***Lunch break***

14.00 - 14.30 **Keynote speech**

Menne Kosian, Cultural Heritage Agency of the Netherlands, Landscape Department (The Netherlands): « Exploiting cultural heritage and heritage knowledge for **climate** adaptation strategies ».

14.30 – 16.00 **Session 2: Opportunities for Climate Change mitigation and sustainable development**

Moderator: Sandra Fatorić

- What are the main priority research topics regarding this theme?
- Could the research that has already been undertaken in both cultural heritage and climate benefit from a further investigation?
- Which are the main scientific obstacles that need to be overcome and which are the research gaps that need to be filled?
- How could the two JPIs collaborate to foster interdisciplinary basic and applied research which would benefit our society?

16.00 – 16.15 ***Break***

16.15 – 17.30 **Mains findings**

- **Session 1:** Aurélie Verney-Carron
- **Session 2:** Sandra Fatorić

Conclusion, Franck McGovern and Pascal Liévaux

List of Participants

ANDRY-CAZIN	Frédérique	Secrétaire générale / Institut OPUS
BALSAMO	Alessandro	Chief of the nominations Unit, World Heritage Centre
BAMPA	Francesca	UNESCO, Regional Bureau for Science and Culture in Europe
BARBARS	Davis	State Inspection for Heritage Protection
BIZZONI	Jessica	Designer
BONAZZA	Alessandra	Institute of Atmospheric Sciences and Climate, National Research Council (CNR-ISAC)
BOURGES	Ann	Centre de Recherche et de Restauration des Musées de France (C2RMF)
BRIZ	Estibaliz	Escuela de Ingeniería de Bilbao
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CASSAR	May	UCL Institute for Sustainable Heritage
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CIATTI	Marco	JPI CH / Ministry of cultural heritage and activities, and for tourism
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COWLEY	Dave	Historic Environment Scotland
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DEKKER	Annet	University of Amsterdam
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HENRY	Guillaume	Directeur édition Vieilles maisons françaises
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LIÉVAUX	Pascal	Chair of JPI CH / French Ministry of Culture
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MANDERSCHEID	Petra	JPI Climate Central Secretariat
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MELANDRI	Eleonora	University of Bologna
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MIROUZE	Chloé	JPI CH Secretariat
ORLANDI	Léa	JPI CH Secretariat
PETRULIS	Vaidas	JPI CH/ Architektūros istorijos ir paveldo tyrimų centras
PILIA	Giulia	NAXTA
POTTS	Andrew	ICOMOS - Climate change and Cultural Heritage Working Group
PRIEUR-RICHARD	Anne-Hélène	JPI Climate / French National Research Agency (ANR)
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SANCHEZ	Anxo	Universidad Carlos III de Madrid
SANTANGELO	Angela	University of Bologna
SCHIPPER	Friedrich	University of Vienna
SCHREIBMAN	Susan	JPI CH Scientific Group / National University of Ireland Maynooth
SHEN	Shangyun	JPI CH Secretariat
SJNDET	Jostein	JPI Climate TAB / Baerum municipality
STEGMEIJER	Eva	JPI CH / Cultural Heritage Agency of the Netherlands
TAERUM	Eli Ragna	JPI CH / The Research Council of Norway
TAMBORRINO	Rosa	President of the AISU Italian Association of Urban History / Interuniversity Department of Regional and Urban Studies and Planning (Torino)
TARNOGRODZKA	Marta	JPI CH / Polish Ministry of Science and higher Education
UGOLINI	Andrea	University of Bologna
VAN KERSEN	Janneke	JPI CH/ Dutch Research Council (NWO)
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