

# INTERNATIONAL SUMMER SCHOOL

## YEAR 1 / 2020

Template for Reporting (D.T2.2.3)

Version 1  
06 2021

Name of PP(s): DUK & CNR-ISAC

Date and Place of Event: Joint ENVIMAT and  
Cultural Property Protection Summer School  
2020





## Report on International Summer School - Year 1 / 2020

Date: September 28<sup>th</sup> to October 9<sup>th</sup> 2020

Place: Online

### Number and categories of participants / target groups

#### 1) Hosts:

- **Danube University Krems DUK (Host)**, Department for Building and Environment, Center for Cultural Property Protection, Anna M. Kaiser
- **Institute of Atmospheric Sciences and Climate - National Research Council of Italy ISAC-CNR (Host)**, Alessandra Bonazza, Paola De Nuntiis, Alessandro Sardella

#### 2) Lecturers (in Alphabetical order):

Alessandra Bonazza, STRENCH Coordinator, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy

Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy

Alfio Gullotta, Carabinieri Command for the Protection of Cultural Heritage (TPC), Italy

Anna M. Kaiser, Programme Director for Cultural Property Protection, Danube University Krems, Austria

Daniele Spizzichino, Italian Institute for Environmental Protection and Research (ISPRA), Italy

Elsa Cattani & Elisa Palazzi, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy

Hannes Schramm, Austrian Armed Forces, Austria

Laurie Rush, US Army, Fort Drum, USA

Natalia Rovella, University of Calabria, Italy

Sotiriou Orfeas, National School of Public Administration and Local Government, Greece

Paola De Nuntiis Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy

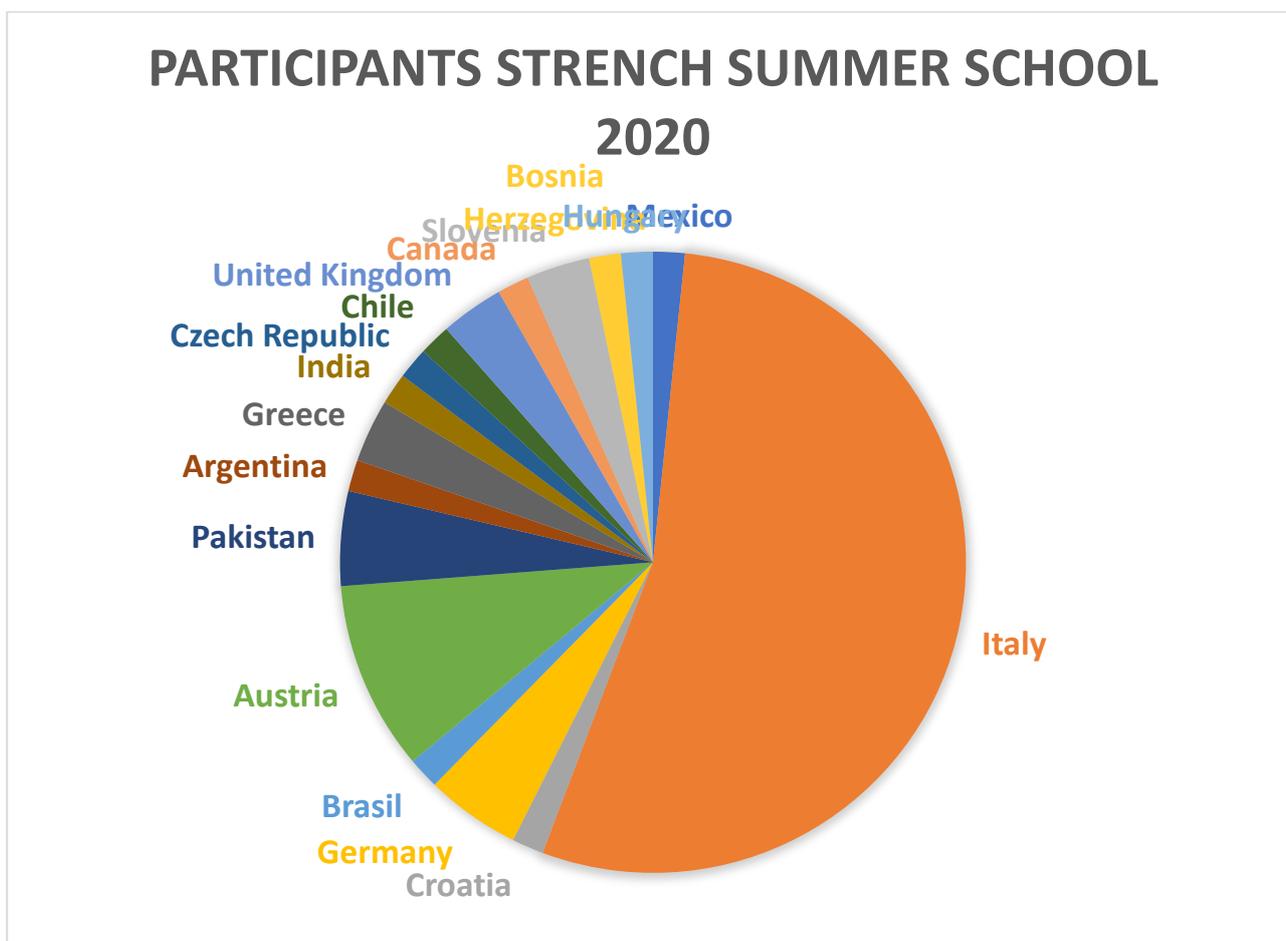
Riccardo Cacciotti, Institute of Theoretical and Applied Mechanics, The Czech Academy of Sciences (ITAM), Czech Republic



3) Participants:

In addition to the 12 lecturers, 55 international students, and 5 STRENCH project partners registered and participated at the summer school.

The diagram shows the geographical dislocation of the participants of the summer school (Italy, Austria, Pakistan, Germany, Greece, United Kingdom, Croatia, Brazil, Argentina, India, Czech Republic, Chile, Canada, Slovenia, Bosnia-Herzegovina, Hungary, and Mexico).





## Topics tackled & links to deliverables/outputs

### Week 1: Sept 28<sup>th</sup> to Oct 1<sup>st</sup> 2020

The first week was planned as slow start into the topic, focusing on cultural heritage and the necessity of protecting it from a number of threats, not only climate change induced ones. This first week gave the participants of the summer school an insight into the holistic approach necessary for cultural heritage protection. The lectures (two hours each as morning or evening lectures) were recorded so that all participants were able to watch them at a time suiting them.

Monday September 28<sup>th</sup>: Dr. Anna M. Kaiser, Danube University Krems, Center for Cultural Property Protection (Host). As primary spokesperson of the Danube University Krems and Host of the joint ENVIMAT and Cultural Property Protection Summer School 2020 “*Tools and Strategies for Strengthening Resilience of Cultural Heritage in Climate Change*” (abbr. SU 2020) Ms. Kaiser initiated the SU 2020 by welcoming all participants and lecturers with a presentation on the STRENCH Interreg Project followed by an overview of the SU 2020 programme and a first lecture on the “Threats to- & Resilience of Cultural Heritage” closing with a presentation on administrative and support issues before handing the word to Mr Schramm.

Mr Schramm is an active member of the Austrian Armed Forces who continued with a lecture on “*Cultural Property Protection - Why to protect our Cultural Heritage*” giving the audience an overview on the historical aspects and development of cultural heritage (abbr. CH) protection followed by a definition and elaboration on Cultural Property and CH and closing with threats to Cultural Property and how to deal with them.

Tuesday September 29<sup>th</sup>: Dr. Laurie Rush, US Army, Fort Drum, USA. Lecture on “*Cultural Property Protection (abbr. CPP) in the 21<sup>st</sup> Century, A View from the Most Deployed Division*“. On the second day of the SU 2020 Dr. Rush’ lecture gave further impressions on the work of CPP in the field ranging from WW2 to the present day. Key aspects included real life information on the necessity of cooperation and training to ensure CH protection and the benefits of identifying potentially unknown yet critical CH in warzones while including lessons learned on successful interdisciplinary partnerships for CH protection.

Wednesday September 30<sup>th</sup>: Lt. Col. Alfio Gullotta Carabinieri Command for the Protection of Cultural Heritage (TPC). With his lecture on the “*Italian Model for Cultural Property Protection in Case of Natural Disasters*” Mr. Gullotta introduced the participants with the structure and organization of the Italian Carabinieri. Tasks, fields of operation, international cooperation and examples of real life operations (national & international) including cultural diplomacy were extensively elaborated on before going into detail of heritage rescue and restoration after disaster (such as severe earth quake) as experienced in Central-Italy.

Thursday October 1<sup>st</sup>: Sotiriou Orfeas, National School of Public Administration and Local Government, Greece. As former Police Sergeant and member of the Cultural Heritage (CH) and Antiquities Protection Department of the Greek Police Mr Orfeas presented the topic on “*How*



to protect cultural heritage in peace time”. Laying emphasis on the communication between cultural heritage professionals and law enforcement institutions. Further topics of the Lecture included how antiquities are “stumbled upon” during agricultural activities, the role of organized crime /money laundering, dimensions and sites of CH (objects & monuments) requiring protection by law enforcement.

## **Week 2: Oct 5<sup>th</sup> to Oct 9<sup>th</sup> 2020**

The second week was planned as “online residential” week in which all participants of the summer school were present. The set-up was designed as good mixture between theoretical lectures and practical sessions in which the participants used the tools and methods developed in STRENCH and in capitalised projects on their own practical case studies.

Monday October 5<sup>th</sup>: Alessandra Bonazza, Elsa Cattani, Elisa Palazzi, STRENCH Coordinator, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy. With three experts from the CNR-ISAC presenting on this day the focus lay on CH protection during climate extremes and climate change. The role of satellite observation as well as current trends in climate extremes and phenomenon were elaborated in detail with examples given in oceanic as well as landlocked areas.

Tuesday October 6<sup>th</sup>: , Daniele Spizzichino, Italian Institute for Environmental Protection and Research (ISPRA), Italy & Riccardo Cacciotti, Institute of Theoretical and Applied Mechanics, The Czech Academy of Sciences (ITAM), Czech Republic. Starting with a lecture on the “*Copernicus in support of the safeguarding of Cultural and natural Heritage at risk*” Mr. Spizzichino continued to present on the potential uses of satellite based imagery for CH protection and gave the participants an insight on which satellites are scheduled for deployment and their individual role and data gathering aspects. Mr. Cacciotti followed with a lecture on the “*Vulnerability of cultural heritage: challenges and opportunities for resilience building*” introducing the participants to a mathematically based evaluation of risk and vulnerability of CH aimed towards improving risk management of CH.

Wednesday October 7<sup>th</sup>: Natalia Rovella, University of Calabria, Italy & Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy. As an expert on various building material of CH sites Mr. Rovella held a lecture on “*Building materials for cultural heritage: characterization, damage and protection*” presenting on the various detrition procedures of stone, mortar, plaster and bricks before “diving” into the topic of salt water degradation of CH building materials and the differences in areal vs underwater archaeology. Mr. Sardella followed with a lecture on “*Risk Mapping for the Protection of Cultural Heritage exposed to Climate Extremes*” by presenting the Web-GIS tool (pioneered in the Interreg project ProteCHt2save) to the audience.

Thursday October 8<sup>th</sup> & Friday October 9<sup>th</sup>: Alessandra Bonazza, Paola De Nuntiis, Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy. After a final lecture on “*Managing Cultural Heritage at Risk in a Changing Environment*” the participants were separated into 3 groups for a practical session on utilizing the Web-GIS tool for risk mapping. The group members were assigned according to their professional background and nationality



into the groups with the aim to work on a STRENCH Pilot-Site. Great care was taken to assign the group members to sites of which they do not have any extensive previous knowledge:

- 1) Kastela (HR)
- 2) Ferrara (IT)
- 3) Troja (CZ)

After being transferred into their respective groups, the participants were given assignments based on the usage of the Web-GIS tool and lectures given. The newly obtained knowledge was then applied on their individual CH site.

### **Conclusion:**

Of the participating international students 23 were granted a certificate of attendance for extensive participation and contribution given during lectures and workshops. Of these an 9 obtained 6 ECTS points based on their active participation during the practical sessions held on October 8<sup>th</sup> to 9<sup>th</sup> and for passing an online multiple-choice exam/quiz (accessible solely via their Moodle account). The exam/quiz was based on the content presented during the lectures held in the 1<sup>st</sup> Week (Sept 28<sup>th</sup> to Oct 1<sup>st</sup>) of the Summer School.

All lectures as well as additional literature were uploaded to the Moodle-Platform which remains accessible for the participants.

The lectures themselves as well as practical sessions were well received with positive feedback given verbally at the end of lectures and courses.

### **Expected effects and follow-up**

The lectures and courses aimed towards strengthening the expertise on CH protection and to further endorse the use of satellite-based technology as seen in the Web-GIS tool. Furthermore the 2 week long course has aided in the networking of CH protectors from all around the world since the exchanges within the various groups were perceived as lively and collegial.

A number of participants declared they hoped for an iteration in the future.



If relevant, annexes (e.g. pictures, media coverage web-links etc.)

Link for registration of the SU 2020: <https://www.donau-uni.ac.at/en/university/faculties/education-arts-architecture/departments/building-environment/news---events/events/tools-and-strategies-for-strengthening-resilience-of-cultural-heritage-in-climate-change0.html>

Link Homepage STRENCH: <https://www.interreg-central.eu/Content.Node/STRENCH.html>

Web-GIS Tool, Link: <https://www.protecht2save-wgt.eu/>

**SU 2020 Programme Screenshot:**

[www.donau-uni.ac.at/dbu/summeruniversity](http://www.donau-uni.ac.at/dbu/summeruniversity)

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ENVI MAT 2020

DONAU UNIVERSITÄT KREMS

Danube University KREMS specializes in part-time academic continuing education. As a public university for continuing education, it works with its expertise in teaching and research to overcome societal challenges and tailors its study programs to address them. The master programs and short programs cover nine fields of study and meet the specific requirements of working professionals. With 8.000 students coming from 85 countries, Danube University KREMS combines its many years of experience in university-based continuing education with innovation to provide outstanding quality in research and teaching at an international level. The university holds the AÖ Austria quality seal. Situated 80 km from Vienna in the alluring world heritage region Wachau, Campus KREMS is a highly attractive location.

**Danube University KREMS**  
The University for Continuing Education

**Information and Registration**

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Published by: Danube University KREMS, Department for Building and Environment  
Images: © TE Fotostudio Schwaner/TripAdvisor, © Anna Kaiser, www.protecht2save-wgt.eu, Walter Stokanitsch, Hertha Humus  
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## Joint ENVIMAT and Cultural Property Protection Summer School 2020

Tools and Strategies for strengthening resilience of Cultural Heritage in Climate Change

### Scientific Committee

> *Alessandra Bonazza, CNR-ISAC*  
> *Anna M. Kaiser, Danube University Krems*  
> *Mauro La Russa, UNICAL*  
> *Alessandro Sardella, CNR-ISAC*

### Organizing Committee

> *Alessandra Bonazza, CNR-ISAC*  
> *Paola De Nuntis, CNR-ISAC*  
> *Anna M. Kaiser, Danube University Krems*  
> *Alessandro Sardella, CNR-ISAC*  
> *Hannes Schramm, Austrian Armed Forces*

### Week 1

#### Monday 28 September

18:00 – 20:00 Introduction to Summer School and Project STRECH  
*Anna Kaiser, Programme Director Cultural Property Protection, Danube University Krems, Austria*

Cultural Property Protection – Why to protect our Cultural Heritage  
*Hannes Schramm, Austrian Armed Forces, Austria*

#### Tuesday 29 September

18:00 – 20:00 Cultural Property Protection in the 21<sup>st</sup> Century: A View from the Most Deployed Division  
*Laurie Rush, US Army, Fort Drum, USA*

#### Wednesday 30 September

18:00 – 20:00 Italian Model for Cultural Property Protection in Case of Natural Disasters  
*Alfio Gullotta, Carabinieri Command for the Protection of Cultural Heritage (TPC), Italy*

#### Thursday 1 October

18:00 – 20:00 Cultural Heritage Protection Design: Identification of Threats, Risk and Vulnerability Assessment  
*Orfeas Sotiriou, National School of Public Administration and Local Government, Greece*

### Week 2

#### Monday 5 October

14:30 – 17:00 Introduction  
*Alessandra Bonazza, STRECH Coordinator, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

Cultural Heritage at Risk due to the Impact of Extreme Climate: The Role of the Satellite Observations  
*Elsa Cattani, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

Climate Extremes in a Changing Climate  
*Elisa Palazzi, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

#### Tuesday 6 October

14:30 – 17:00 Copernicus in Support of the Safeguarding of Cultural and Natural Heritage at Risk  
*Daniele Spizzichino, Italian Institute for Environmental Protection and Research (ISPRA), Italy*

Vulnerability of Cultural Heritage: Challenges and Opportunities for Resilience Building  
*Riccardo Cacciotti, Institute of Theoretical and Applied Mechanics, The Czech Academy of Sciences (ITAM), Czech Republic*

#### Wednesday 7 October

14:30 – 17:00 Building Materials for Cultural Heritage: Characterization, Damage and Protection  
*Natalia Rovella, University of Calabria, Italy*

Risk Mapping for the Protection of Cultural Heritage exposed to Climate Extremes  
*Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

#### Thursday 8 October

10:00 – 11:30 Managing Cultural Heritage at Risk in a Changing Environment  
*Alessandra Bonazza, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

14:00 – 17:00 Practical Session. WebGIS Tool for Risk Mapping  
*Alessandra Bonazza, Paola De Nuntis, Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*

#### Friday 9 October

09:30 – 12:30 Practical Session. WebGIS Tool for Risk Mapping  
*Alessandra Bonazza, Paola De Nuntis, Alessandro Sardella, Institute of Atmospheric Sciences and Climate (CNR-ISAC), Italy*