CIVIS A European Civic University

CIVIS Short- Term Course

Climate Change and Cultural Heritage: from theory to practice

Nov - Dec 2021

University of Athens
University of Bucharest
Sapienza University of Rome

Apply by 20 Sept 2021

Programme

Lecture 1. Introduction to the theme "Climate change and Cultural Heritage"

- Welcome message and short description of the course and its objectives
- *Prof. C. Cartalis / Prof. Gabriele Favero / Prof. Delia Popescu*
- The international framework on climate change (UNFCCC, UNEP, European Commission). International initiatives related to the theme "Climate Change and Cultural Heritage" (European Commission-Council of Europe – UNESCO – ICOMOS and others)

Lecture 2. Disentangling climate and human forcing in the last millennia

- Past and present climate change as investigated under the lens of terrestrial records
- *Prof. Laura Sadori, Palynologist and Archaeobotanist*

Lecture 3. Assessing Climate Risk

- Main processes and driving factors of climate change. Climate modeling, scenarios and projections. Acquaintance with exposure, sensitivity, adaptive capacity and vulnerability.
- *Dr. Konstantinos Philippopoulos, Environmental Physicist*

Lecture 4. Climate change and heritage conservation risks

- Historic climate inside museums is characterized and described in relation to its impact on the conservation of heritage materials.
- *Prof. Anna Maria Siani / Dr. Francesca Frasca, Physicist of the atmosphere*

Lecture 5. Climate change and bio-deterioration in Cultural Heritage

- The effects of climate change on the distribution and abundance of deterioration agents are addressed, with a particular focus on invasive species and insect pests.
- *Prof. Daniele Porretta, Evolutionary Biologist*

Lecture 6. Modern methods in assessment/monitoring degradation of materials

- Integrated physical and chemical methods for assessment/monitoring degradation of materials used in cultural heritage correlated to climate changes. Guidelines and methodologies for scientific-based decisions in cultural heritage strategies.
- *Prof. Otilia Cinteza. Chemist/Prof. Delia Popescu, Chemist/Dr. Migdonia Georgescu, Physicist, The National Museum of Romanian History, Bucharest*

Lecture 7. Impact of climate change on materials used in cultural heritage. Advanced materials for protection of cultural heritage

- Materials used in cultural heritage - assessment of degradation due to climate change. Research case studies on selected archaeological sites and historic monuments. Novel paradigm in design of materials for the conservation of cultural heritage related to the climate change induced risks.
- *Prof. Otilia Cinteza. Chemist/Prof. Delia Popescu, Chemist/Dr. Migdonia Georgescu, Physicist, The National Museum of Romanian History, Bucharest*

Lecture 8. Drafting climate change adaptation plans for open-air archaeological areas - Closing Session with the participation of all partners

- Climate change indicators in support of early warning. Climate change adaptation guidelines. Case studies for selected open-air archeological areas. Decision Support Systems architecture.
- *Prof. Constantinos Cartalis. Environmental Physicist*

Content of the course

Climate change is a threat to cultural heritage. In order to recognize, monitor, assess and address such threats, a wide variety of scientific disciplines are needed: environmental and climate science, physics, chemistry, biology and of course archaeology.

This course applies a solid transdisciplinary approach, with aims that include the **understanding of climate risks**, the study of **new methods for assessing the degradation of materials**, the examination of the **impact of indoor climate on heritage materials** (for example in museums) and finally the design of **climate change adaptation plans**. Critical parameters such as exposure, sensitivity, adaptive capacity and vulnerability to climate change will be examined as we explore the impacts of climate change on cultural heritage.

Conditions of application

Applicants should send:

- A **cover letter** (not more than 300 words) explaining their motivation for attending the course;
- A **short CV** (max 2 pages) including information on their educational background and the level of knowledge of the English language.

Send your documents to **courses-clima@phys.uoa.gr** by **20 September 2021**.

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HELLENIC REPUBLIC
National and Kapodistrian University of Athens
EST. 1837

UNIVERSITY OF BUCHAREST
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