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DIPARTIMENTO DI GEOSCIENZE

Seminario

# UrbanClimate: Assessing the Impact of Traditional Buildings on UHIs in Historical Urban Centres Under Current and Future Climate Conditions

Thursday, 6 November 2025 – 16:30, Aula Arduino

Relatore: **Prof. Charles Galdies –** Institute of Earth Systems, University of Malta

The UrbanClimate project investigates how traditional Mediterranean architecture can mitigate urban heat stress under a changing climate. This research project - funded by Xjenza Malta's Space Research Fund - builds on prior research into the thermal performance of traditional versus modern roofs in Malta. Using a novel methodology that integrates satellite data, UAV imagery, and in situ measurements, the project maps thermal conditions in historical urban centres at building and street level. These thermal maps are then correlated with roof typologies - particularly traditional layered roofs known for their superior insulation properties. By coupling this data with climate models projecting near-, mid-, and end-century scenarios, the project identifies future thermal hotspots and assesses their implications for built heritage and occupant comfort. Findings are contextualized using EU-funded studies such as Noah's Ark and Climate for Culture. The project engages key stakeholders in heritage and planning, offering actionable insights for climate adaptation and conservation strategies in Mediterranean urban environments.

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