

PRESS RELEASE | 21.04.2026

Sacsayhuamán emerges from the forest: new discoveries rewrite the origins of Cusco, capital of the Inca empire

An international project led by the University of Warsaw, with the contribution of CNR ISPC, uses non-invasive technologies to reconstruct the earliest phases of the Inca empire..

Beneath the dense vegetation of Sacsayhuamán, one of the most iconic symbols of ancient Cusco, the capital of the Inca Empire, structures, road networks, and terraces that have remained hidden for centuries are gradually re-emerging. Bringing them to light is a collaborative team of Polish researchers from the University of Warsaw and Italian researchers from the Institute of Heritage Science (ISPC) of the National Research Council of Italy (CNR), working within the international research project “The Origins of the Capital of the Incas”.

The project is funded by the National Science Centre, Poland (NCN) under the OPUS programme (OPUS 24), grant no. 2022/47/B/HS3/03290, and is coordinated by Alexei Vranich at the University of Warsaw’s Centre of Andean Studies. The research aims to reconstruct the origins of the Inca capital through an integrated methodological framework combining non-invasive surveys, targeted excavations, and archaeometric analyses.

Sacsayhuamán and Cusco

Perched above the city of Cusco, Sacsayhuamán is not merely a monumental complex: it represents a key to understanding the symbolic and urban organization of the Inca capital, described in historical sources as a city shaped like a puma. It is precisely from this setting that a new scientific challenge emerges: to move beyond the notion of a ‘minor’ Cusco in the pre-imperial phases and instead investigate the existence of an already complex, articulated, and monumental center.

The contribution of CNR ISPC

At the heart of the research are strategic sites such as Cruz Mo’qo and Patallacta, which contribute to redefining the framework of early urban development. In this context, the activities of the [ITACA Mission](#) of CNR ISPC Potenza, directed by Nicola Masini, are providing new insights into the origins and evolution of the capital of the Inca Empire, an issue that remains the subject of ongoing scholarly debate.

The team has operated through a fully non-invasive approach, integrating advanced remote sensing and geophysical survey technologies. Drone-based LiDAR surveys and high-resolution photogrammetry, carried out by Nicodemo Abate and Gabriele Ciccone (CNR ISPC Potenza), together with ground-penetrating radar investigations conducted by Michele Punzo (CNR ISPC Naples), have made it possible to 'read' the subsurface without disturbing the site. Over an area of approximately 69 hectares, surveyed with extremely high data density, it has been possible to reconstruct terrain morphology in detail and identify numerous previously unknown archaeological features: terracing systems, road networks, architectural structures, possible quarry areas, and even traces of past excavations now erased by vegetation.

These discoveries demonstrate how remote sensing technologies can transform the study of archaeological landscapes, bringing to light what time had concealed. At the same time, they underscore the leading role of CNR ISPC, and in particular of the AIRLab Laboratory in Potenza, part of the MOLAB mobile laboratory of E-RIHS.it, the Italian node of the European Research Infrastructure for Heritage Science (E-RIHS), in the development of innovative methodologies for landscape archaeology.

From research to a National Geographic documentary

This renewed interest in the origins of Inca civilization is also reflected in the recent National Geographic documentary "[Manco Cápac, the First Ruler of the Inca Empire](#)", which features researchers engaged in the study of the formative phases of the capital. The integration of remote sensing data, geophysics, and GIS analysis is now opening new perspectives for addressing major historical questions, such as the birth and evolution of ancient cities, while also providing concrete tools for the protection and sustainable management of cultural heritage.

An archive yet to be interpreted

In this context, Sacsayhuamán and its surrounding landscape emerge not only as monumental testimonies of Inca power, but as complex archives that are still largely to be deciphered. Through the integration of advanced technologies and interdisciplinary approaches, the project is contributing to a fundamental reassessment of the origins of the Inca capital, opening new perspectives not only for understanding the past, but also for the protection and sustainable enhancement of one of the world's most extraordinary cultural landscapes.