

# **Early Bead Making in Prehistoric Balochistan. A Chalcolithic Workshop Area at Mehrgarh (Pakistan), mid-4<sup>th</sup> millennium BCE**

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Questa ricerca analizza una collezione di 523 manufatti, rinvenuti sulla superficie del sito di Mehrgarh (MR2), testimonianza di un'importante area di lavoro per la produzione di perline semipreziose (lapislazzuli, cornalina, turchese) e di trapani in diaspro risalenti alla metà del IV millennio AEC. Il 10% dei reperti è stato selezionato per le analisi archeometriche con lo scopo di fornire informazioni sulle tecniche di produzione e sui materiali utilizzati nel processo di fabbricazione delle perline a Mehrgarh. Lo studio comprende un catalogo degli esemplari esaminati, presenta i risultati delle nuove analisi e sottolinea l'importanza dei metodi archeometrici per migliorare la nostra comprensione dell'artigianato e della tecnologia antichi.

The aim of this paper is to recapitulate and further develop the study a collection of 523 artifacts found on the surface of the site of Mehrgarh, in area MR2, where evidence of an important working area for the production of semi-precious beads (lapis lazuli, carnelian, turquoise) and jasper drills (dating to the mid-4<sup>th</sup> millennium BCE) was found. From this large assemblage of finds, 53 (about 10% of the total) were selected as the most significant for the present analysis. The study employs archaeometric analyses such as digital microscopy, scanning electron microscopy, confocal microscopy, and Raman spectroscopy to analyse the artifacts. This comprehensive examination of the assemblage aims to provide important insights into the aspects related to the production techniques and materials used in the bead manufacturing process at Mehrgarh. The study includes a catalogue of the examined specimens, presents results of the new analyses, and highlights the significance of archaeometric methods in enhancing our understanding of ancient craftsmanship and technology.

## INTRODUCTION

The prehistoric site of Mehrgarh (Kacchi plains, Balochistan, Pakistan), since the seminal excavation by the French Mission de l'Indus led by Jean-Francois Jarrige, still represents the core of what we know on the development of village life in the north-western regions of the Indo-Pakistani Subcontinent. The transition to a sedentary subsistence mainly based upon agriculture and husbandry entailed a parallel intensification of the processes of interpersonal communication within the settled community, the reflections of which are captured in the personal ornaments found in graves. Mehrgarh's Neolithic and early Chalcolithic burials reveal a shift in emphasis from personal ornaments to elaborately decorated terracotta figurines in the late Chalcolithic period (4<sup>th</sup> millennium BCE). While burial practices, in this latter chronological horizon, became standardized, ornament complexity on the deceased declined. This suggests a