

### Conference Cum Workshop on History, Science, and Technology of Ancient Indian Glass, IIT-Gandhinagar

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The Archaeological Sciences Centre (ASC) at the Indian Institute of Technology Gandhinagar (IITGN) has pursued a program of organizing History, Science, and Technology workshops that focus upon a selected archaeological artifact class or material. The aim of these events has been to infuse a selected group of students with an acute sense of the specific problems and opportunities that are involved in the study of that material. This has taken shape in the motivation to host a conversation between the leading experts of the field, and equally to provide hands on training in the ethnoarchaeological, experimental, and scientific prospects of that particular field of archaeological research.

After publishing the result of the first workshop of the series on stone beads which was held in August 2015, the second workshop was held 21-25 January 2019 in IIT Gandhinagar on Ancient Indian Glass (Figure 1). The experts included archaeologists who have had extensive experience of south Asian glass, and

archaeological chemists with expertise in the elemental analysis of glass. In addition, it included established ethnohistorians and ethnoarchaeologists of south Asian glass and vitreous materials, alongside craftspersons who brought their lifelong and inherited skill, expertise and knowledge.

The five-day conference cum workshop involved four days of academic presentations, 27 in all, and two field trips, which together covered veritably all aspects of the study of glass. These ranged from the origin of glass and faience, to the manufacturing techniques developed at different times in South Asia and the regional distribution of key artifacts both within and as traded far outside the region. Additionally, the talks also included detailed introductions and extended examples of the analytical chemistry of ancient glasses. About a quarter of the 27 presentations deal expressly with glass beads. For a complete list of titles and abstracts, see <http://events.iitgn.ac.in/2019/aig/>.

#### Live Workshops with Craftspersons

Throughout the conference a range of other resource persons were present and vital to the learning



Figure 1. Delegates at the 2019 Ancient Glass Workshop, Gandhinagar, India.

of all participants without making any paper presentations. These involved three sets of master craftspersons which included two craftspersons (Nandlalji and Krishan-ji) from Banaras Beads Limited (BBL). The second group was of stone-bead craftspersons from Khambat, Anwar Husain (chipping/grinding/polishing master) and Pratap-bhai (drilling master). The third was a group of women from the Rabari (Asha and Megha-ben) and Miri (Sakina, Madina and Zanab) communities, who demonstrated the care, attention, and detail that the traditional beadwork typical of the Kutch area requires and demands.

For many of the participants, observing the production of lamp-wound beads was their first experience of the working of glass at close quarters. At once, interaction with the master craftspersons from BBL covered a range of topics and conversations. These ranged from the specificities of melting canes, combining colors, the clay separators used on the mandrels, the rates and kinds of failures, to the kinds of innovations in design they are regularly challenged to make.

In a similar vein, the presence of the stone-bead master craftspersons allowed the students to witness, interact, and experiment with the craftspersons and come to grasp the complexities of working with and drilling stones. Engagements with them moved from the basics of stone-identification to the reduction process and its complexities as well as the bow-drill apparatus used for drilling and its body-techniques.

### Faience Workshop

All the participants also benefited from a specially invited workshop conducted by Profs. Mark Kenoyer and Massimo Vidale on the replication of Indus Valley faience technologies. The faience reproduction workshop was a truly unique component of the conference. It introduced and engaged all participants in the care and systematic outlook and planning which

experimental archaeology demands, and especially to the infrastructural, fuel, and labor demands which the pyrotechnological products demand. In demonstrating the care and attention needed in both making frit and faience artifacts, the workshop made clear how much the glassy phase demands of craftspersons, and a renewed appreciation of the extraordinary excellence of the Harappan artifacts. In addition, the detailed demonstration of all parts of the process, the hands-on experience with all the raw materials and the ability to witness raw materials at various stages, as well as the transformation in them and the crucibles, was invaluable.

### Acknowledgements

IITGN acknowledges financial support received from the Indian Council for Historical Research (ICHR), Indian Council of Social Science Research (ICSSR), National Science and Engineering Research Board (NSERB-DIA), Gujarat Council on Science and Technology (GUJCOST), and Directorate of Archaeology - Gujarat State. Gratitude is also expressed to the International Commission on Glass (ICG) and Elemental Analysis Lab - Field Museum (FM) for timely support for some International travel, and to Banaras Beads Ltd. for logistic support for the live glass bead-making demonstration during the conference.

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