Università di Pavia

CAPTURING SCIENCE IN ACTION

The discovery of natural quasicrystals

The public, including aspiring young scientists, seldom gets a sense of what science really feels like as it is happening – the doubts, the fears, the twists and turns, the joy of victory and the agony of defeat. Even if the science is still uncertain, insights of this type have both inspirational and historic value. This talk will explore this issue using very peculiar examples from the speaker's own experience: the description of the timeline leading to the discovery of the first natural material with forbidden symmetry and a geological expedition to one of the most remote places on the planet in search of the first natural quasicrystal.

Shock-produced quasicrystals

The singular occurrence, to date, of natural quasicrystals has required an explanation both of the possibility and of the rarity of their formation outside of the laboratory. Repeated successful syntheses by experimental shocks, with starting materials similar to the exotic intermetallic alloys in the Khatyrka meteorite, have demonstrated a mechanism that is feasible in space but not in any natural setting on Earth. The previously unrecognized composition of the synthesized quasicrystals, has demonstrated a method for discovery of previously unknown quasicrystal compositions.

Seminars by Prof. **Luca Bindi**

University of Florence

6 Marzo 2018 ore **16:00**

7 Marzo 2018 ore **14:00**

Aula D3 - Presso Dipartimento di Scienze della Terra

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