

# Visit to Johannesburg (Robbie + Lumkile)

- WITS Geoscience Department staff:
  - Stephanie Enslin organised the talk
  - **Musa Manzi** is a scientist there who does underground experiments in a mine – he was not present – on a trip in Europe
  - **Raymond Durrheim**. Retired person who is interested in earthquake prediction – not present at talk since he was on leave- but interested.
  - **Linda Iaccheri** promised to put us in touch with the Mining Engineers since she knows some of them as she lectures to their students.
- WITS Physics staff.
  - Two members of the Physics staff attended the talk
  - **Elias Sideras-Hadad**. He interacted with us a lot – knows Lumkile and I have had several contacts with him. He is also on the ATLAS collaboration and will probably be our main contact at Wits. Zebulon Vilakazi is of course interested as well.
- University of Johannesburg Geology Department - Dr **Tebogo Makhubela**
  - He uses radioactive dating methods for archeology.
  - Working at the “Cradle for Humankind”. Large system of caves that are not even half-way explored.

# Italian (INFN) group will use muography to map the caves!

## Newsletter Focus

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### MIMA-SITES: COSMIC MUONS FOR MINING ARCHAEOLOGY



Muons may be used to unveil aspects of mining sites that are still unknown and contribute to their protection.

The results of the MIMA-SITES project, coordinated by INFN and co-funded by the Tuscany Region with the 2014-2020 ESF and Parchi Val di Cornia SpA, showed that important information for enhancing mines with a cultural-historical and tourist value and for performing useful assessments to make them safe and identify potentially interesting new areas can be obtained with muon radiography. The project was conducted in the Temperino mine in Campiglia Marittima

(Livorno), within the Parco Archeominerario di San Silvestro (Archaeological Mines Park of San Silvestro). It involved a group of physicists and geologists, researchers of the INFN Florence Division, the Departments of Physics and Astronomy and Earth Sciences of the University of Florence, the Institute of Geosciences and Earth Resources of the National Research Council of Pisa (CNR-IGG), together with Parchi Val Cornia Spa. The results were published in [Scientific Reports in Nature](#) and [Natural Resources Research](#).

## Newsletter credits

INFN Newsletter

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