Naturally occurring asbestos (NOA): from geological to medical aspects

The 2nd EMU (European Mineralogical Union) school on mineral fibres – 2019 EMU school

Casale Monferrato (Alessandria, Italy) - September 9-13, 2019

Chairs: Ruggero Vigliaturo and Alessandro F. Gualtieri

Following the success of the first edition of the EMU (European Mineralogical Union) school on mineral fibres organized in Modena (Italy) in June 2017, this second edition will be more focused on naturally occurring asbestos (NOA). NOA became a global public health issue since the publication of scientific evidences of increased risk of malignant mesothelioma in the population exposed to airborne asbestos released from natural occurrences. The presence of NOA in the environment affects all the human activities aimed at its modification and all engineering/geological actions in the natural environment should take it into account.

The school will cover different multidisciplinary aspects and is aimed at students with a background in Biology, Chemistry, Geology, Material Science, Medicine, Physics who strive for working in this challenging research field of environmental protection.

Each participant will receive a copy of the EMU Notes Volume 18 (2017) (see https://www.minersoc.org/emu-notes-18.html) to be used as textbook during the school.

The following topics will be covered:

- Crystal chemistry and occurrence of mineral fibres and naturally occurring asbestos (NOA)
- Definitions (asbestos, fibre, NOA, NOMF, NOE …)
- Identification of the occurrence, formation and associated host rock types of the various NOA minerals
- Geological assessment and field sampling methods for NOA in rock and soil
- Experimental methods for the investigation of mineral fibres with special attention to optical and electron microscopy
- Lab rock and soil testing sample preparation and analysis protocols
- Selected examples of NOA
- Protection of workers and the public from large and small construction projects
- Surface and bio-chemical properties of mineral fibres
- Asbestos related diseases and bio-chemical mechanisms inducing adverse effects in the human body
- *In vitro* and *in vivo* tests to assess cyto/genotoxicity and carcinogenicity of mineral fibres

- Epidemiological studies of asbestos related diseases and genetic factors

During the school, there will be afternoon practical sessions to let the students face with the experimental methods for the study of mineral fibres, two field trips and an educational visit. At the end of each day, there will be time for open discussions. The distinguished Italian and international lecturers will be delighted to share their outstanding scientific and life experience with the students and interested colleagues.

On-line registration is now open and will close on May 8th, 2019.

Max number of attendees: 60

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