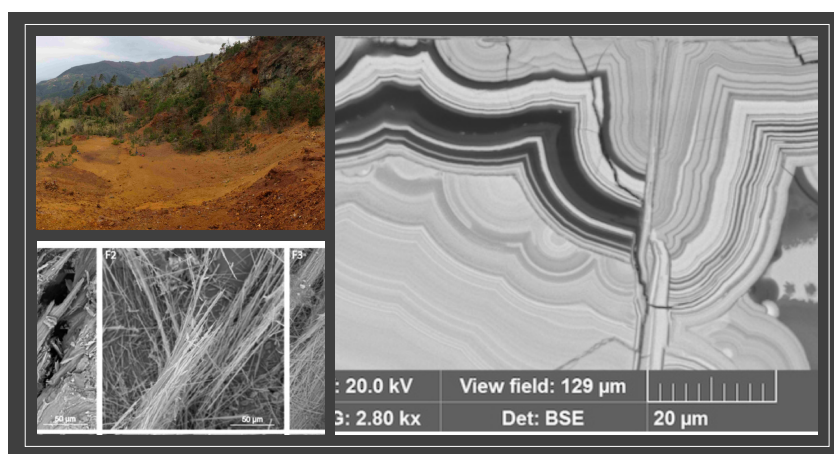


Mineralogic and petrographic applications to the Environment and to Cultural Heritage



Environmental mineralogy, hazard and monitoring and waste treatment

Environmental and applied mineralogy are addressed with particular reference to: 1) interaction between minerals and aqueous fluids; 2) role of minerals in the mobilization and selective concentration of ecotoxic metals; 3) alteration processes of minerals in natural (soils, marine and fluvial sediments) and anthropized (waste-rock landfill, urban and industrial terrains) supergenic environments; 4) mineralogical and chemical investigations for the evaluation of metals and metalloids background values in natural and anthropogenic soils; 5) minerals-biosphere interactions, advanced clinical investigations on asbestos hazard, and determination of the ecotoxic metals bioavailability; 6) monitoring of the dispersion of airborne asbestos and other pathogenic fibrous minerals in geologic matrixes, 7) innovative treatments of industrial minerals waste.

Keywords: Environmental mineralogy, applied mineralogy, ecotoxic metals

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Grants: PRIN 2017: Mineral reactivity, a key to understand large-scale processes: from rock-forming environments to solid waste recovery/lithification. PI: Gilberto Artioli

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Geomaterials and archeometry

The compositional and physical properties of rocks, binders, aggregates, ceramic pastes and coatings, pigments of contemporary use or in cultural heritage are investigated by multi-analytical investigations applied to building materials and archaeological artefacts.

Keywords: bulk composition, physical properties, textures, production processes, provenance

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