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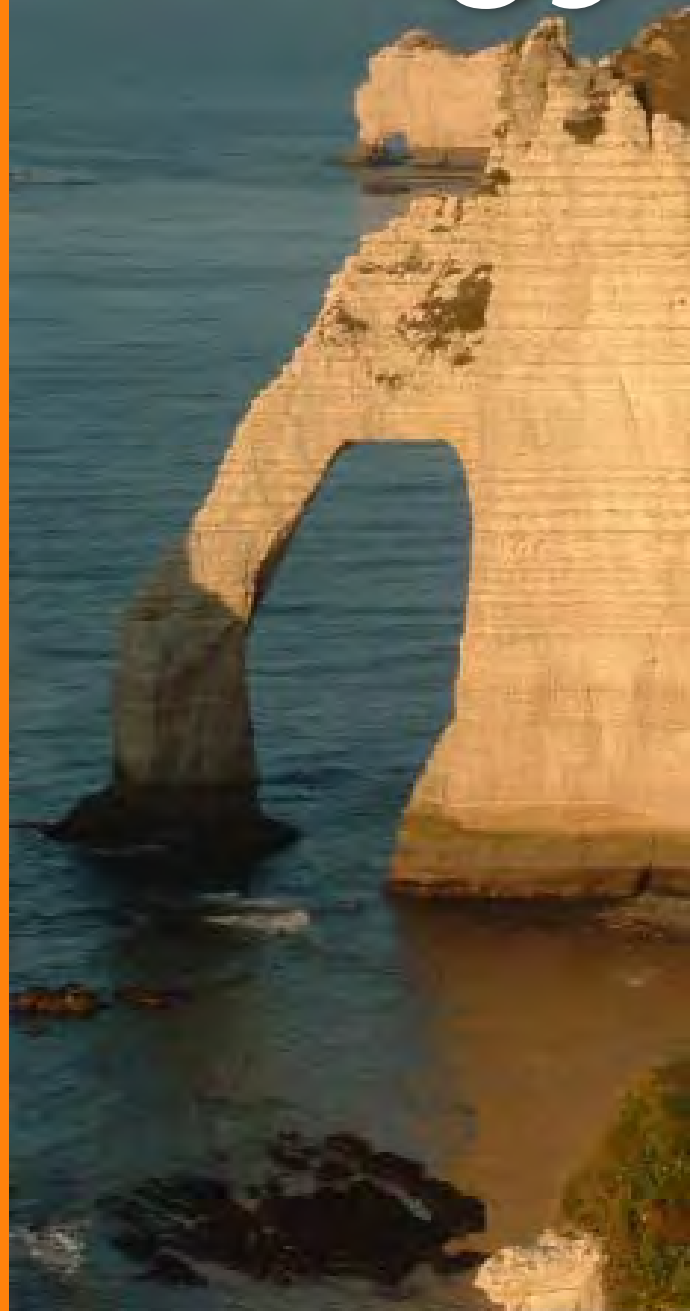
ABSTRACTS VOLUME

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Oral presentations:

Rare sulfate minerals (fibroferrite) and hypogene sulfuric speleogenesis in Baume Galinière Cave (Alpes-de-Haute-Provence, France)

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The oxidation of sulfides sources (H₂S gas, pyrites oxidation, hydrocarbon leakages...) produces sulfuric acid that strongly reacts with its environment, with limestone dissolution and complex interaction with other minerals in presence. Such kind of cave development is referred as Sulfuric Speleogenesis, a subcategory of hypogene speleogenesis (i.e. with source of aggressivity and water rising from depth). It also produces uncommon mineral, mainly sulfates.

Baume Galinière locating in Southern France, in Vaucluse spring watershed. This small maze cave originates from the oxidation of small pyrite ores. Several speleogenetic phases are recorded, successively phreatic with calcite dykes and iron crusts, then in atmospheric environment involving sulfuric gases. Attenuated oxidation is still occurring through condensation of the air entering the nearby entrance. Characteristic features are present (especially corrosion notches), together with sulfuric speleogenesis by-products, such as sulfur, goethite, and sulfates (gypsum, jarosite, natrojarosite, fibroferrite). It is the second mention of fibroferrite, a rare cave mineral, which can develop only within low pH and RH conditions.

Together with others hypogenic caves surrounding the Vaucluse watershed, the Baume Galinière Cave owes its presence to deep water lifts along major faults, at the contact of the karst aquifer confined by impervious covers. It records the position of paleo-covers and their retreat, in relationship to the landscape evolution and the valleys incision, which responds itself to the uplifting and tilting of the Vaucluse block during Neogene.

Interaction between the fluvial incision and the geological structures: the Torca La Texa shaft (Picos de Europa, Spain) case

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The Picos de Europa is an alpine karst that includes 270 km of large shafts and cave levels perched over the water table; nevertheless, only the speleogenesis of 4 % of the caves have been studied systematically. The aim of this work is to characterize the geomorphology, structural control and evolution of Torca La Texa shaft. The method includes speleological, hydrogeological, geomorphological, geochronological and structural techniques. Torca La Texa (4° 53' W 43° 16' N 1,305 m) is a multilevel cave (2.6 km long, 215 m depth) formed by four levels (43 % of the cave) perched at 1,273, 1,258, 1,238, 1,168 m, five *soutirage* conduits (5 %) and narrow canyons (52 %). A spring sited at 835 m represents the base level of the cavity. The cave levels show fluvial features modified by incision and often covered by speloethems. The *soutirages* include epiphreatic features and debrisflow deposits remobilized from the upper passages; the canyons were modified by gravity process in some places. Three speleothem samples from the second cave level were dated in 65, 156 and 181 ka, whereas the fourth sample is out of range of the U-Th method. The shaft is developed in a carboniferous limestone located at an antiform associated to an imbricate and overturned system thrust. Cave passages are forced by four families of joints (1: N120E/78SW; 2: N146E/52SW; 3: N100E/59SW; 4: N184W/60NW), the bedding (N123-186E/60SW) and the axis fold (N263E/41SE). The results evidence Torca La Texa was developed in relation to the progressive drop of the water table in a complex structural environment. The cave levels were developed in phreatic conditions and guided by the bedding and families of joints 2 to 4, while *soutirages*, shafts and canyons are formed downwards follow the bedding, families of joints 1 and 4 and the axis of the fold. The first and second cave levels were originated by fluvial process that probably finished 156-181 ka ago and with large flowstone should deposited until 65 ka ago.