

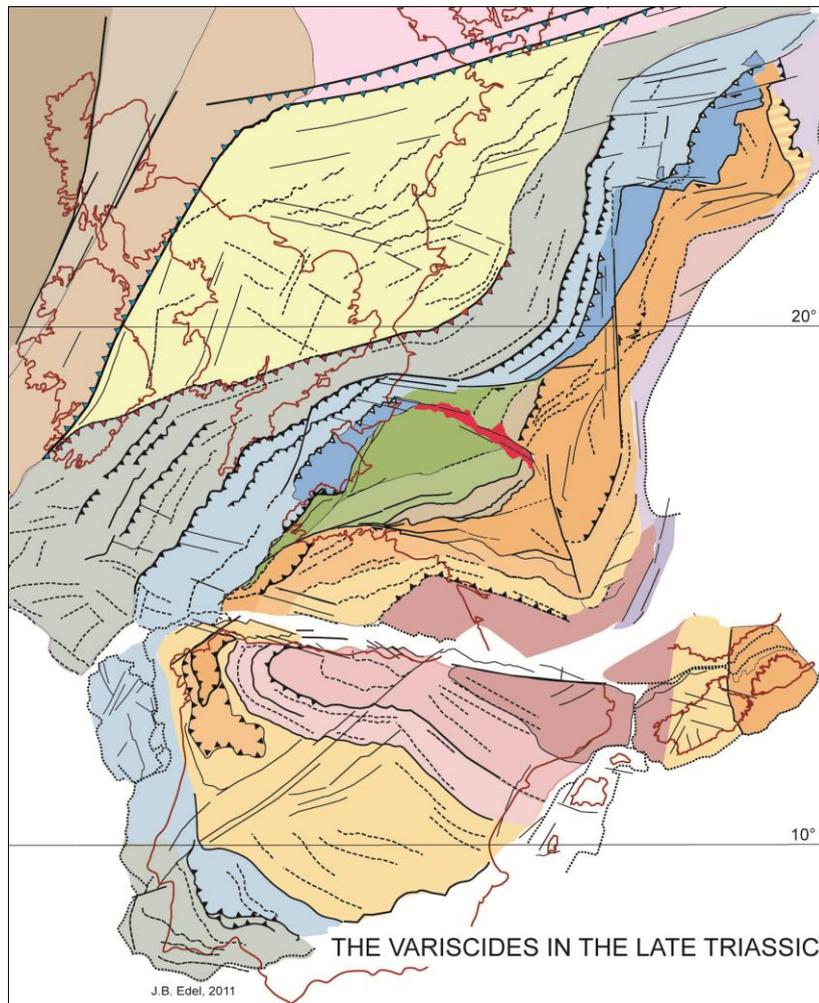


# Length scales, time scales and relative contribution of Variscan orogenic events to formation of European crust

Special meeting of French and Italian Geological Societies

<http://variscan2012.uniss.it>

## First Circular



## ***Organisation***

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## ***Under the patronage of***

Italian Geological Society, French Geological Society, BRGM,  
Universities of Sassari, Nice and Strasbourg

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**May 22 –23, 2012**

**Sassari**

Pre-conference excursion in the Maures Massif  
and Corsica from 19 to 21 May.

Scientific sessions in Sassari from 22 to 23 May.

Post-conference excursion through Sardinia from  
Sassari to Cagliari from 24 to 26 May.

Excursions guided by Michel Corsini (Maures), Philippe Rossi (Corsica), Giacomo Oggiano (Sardinia).

## Objective

**The Variscan orogeny** in Europe resulted from amalgamation of Gondwana-derived continental blocks derived by Ordovician fragmentation of this supercontinent. The Early-Palaeozoic fragmentation process was associated with major magmatic reworking of Proterozoic crust, development of intercontinental rifts, passive margins and oceanic domains. This event influenced irregularly structure and composition of the future Variscan crust. Subsequent drift of continental blocks terminated by amalgamation of microblocks during Devonian and Carboniferous followed by final accretion to Laurussia. This process was governed by closure of intervening oceanic basins between different sized microblocks, which led to further heterogeneous thermal and magmatic reworking of the continental crust. Towards the end of Carboniferous, the plate configuration changed leading to major shortening along the orogen's axis, which was associated with activity of lithosphere-scale strike-slip faults accompanied with magmatic activity. Several modern studies have shown that above-mentioned processes affected the Variscan system with different intensity; thus in Central Western Europe the Late Carboniferous event was subordinate, whereas the southern European realm shows complete magmatic reworking leading to a formation of continental crust quite different from that formed in the north.

**The aim of this conference** is to discuss: 1) role of Ordovician tectonics (an attending magmatism, volcanism and development of sedimentary basins) in the formation of future Variscan system, 2) timing and relative contribution of Devonian–Carboniferous subduction processes on reworking of continental crust in different parts of Variscan belt and 3) final edification of the Variscan crust during Late Carboniferous–Permian in South Western Europe and their relationships with the pre-structuration of the Alps.

**To date**, the above mentioned issues are being discussed separately by geologists working in different parts of Europe, Africa and North America. Therefore, no correlation of succession of tectonic events is carried out across the continent in terms of directions of compressive–extensional events, their relative duration and timing. In addition, the metamorphic and magmatic evolutions related to these tectonic events were highly variable and necessitate careful correlation along the belt axis. Large amounts of new geochronological data call also for orogen-scale correlations as far as protolith formation and timing/duration of tectonothermal events concerns. New

progress in geophysical imagery of European crust in Iberia and Eastern Europe require also correlative efforts.

**The major issue** is the difference between metamorphic and magmatic evolutions of Central–Western and Southern Variscan branches. The former part is dominated by Viséan HP granulite-facies event accompanied with specific perpotassic magmatism, while in the latter this event is in general absent. In contrast, the southern Variscan Europe exhibits evidence for major magmatic reworking from Late Carboniferous to Permian. It is our goal here to define: 1) boundaries of these two realms, 2) the importance of magmatic reworking on vertical edification of crust and, 3) the potential role of Late Paleozoic crustal thermal reworking in southern Europe on initiation of Mesozoic ocean basins and Alpine system.

**In order to discuss** these important issues the specialists from European, North American and African scientific communities from all branches of Earth Sciences are invited to Sassari in May 2012.

**The main scientific questions addressed by this meeting are as follows:**

- Was the Devonian subduction event widespread and contemporaneous along the Variscan belt?
- What was the mechanism of migmatite and granulite domes emplacement across the belt (gravity inversion, crustal scale folds or core complexes)?
- What was the nature, extent and causes for the Mg–K magmatism at ca. 340 Ma?
- What was the kinematic significance of Mid–Late Carboniferous tectono-magmatic event in Europe? How to bridge the gap between the different zones?
- What was the thermal influence of the Late Carboniferous–Early Permian mafic–felsic magmatism in External Crystalline Massifs of the Alps–Corsica–Sardinia–Pyrenees and its relations with the Late Carboniferous granulitic event?
- What was the role of large lithospheric faults in tectonic evolution of different blocks during Carboniferous and Permian?
- Can the Variscan Belt be separated in Northern and Southern provinces and what are their boundaries?
- What were the nature, extent and causes of the ‘Sardic phase’ in the Southern Variscan realm?
- How evolved and fragmented the Northern Gondwana margin between Cambrian and Devonian?
- What was the nature and evolution of oceanic areas separating the Northern Gondwanan fringe and Laurussia prior to Variscan collision?

## Publications and abstracts

Special volume of *Special Publication of Geological Society of London* (review articles) and special volume of *Bulletin de la Société Géologique de France* (thematic process-oriented articles) will be dedicated to the meeting. The deadline for paper delivery is December 30, 2012. The abstracts will be published in a special volume of *Geology of France and surrounding areas* edited by the BRGM, with the dead line January 15, 2012.

## Conference format

Invited lectures (30 minutes including discussion), lectures (15 minutes including discussion), posters introduced by 3 minutes presentations.

## Pre- and Registration

Registration dead line is January 15, 2012. Pre-registration is highly recommended to allow us to construct the programme and second circular. It will be done via the web site: <http://variscan2012.uniss.it>

For information consult the web-site or Karel SCHULMANN ([schulman@unistra.fr](mailto:schulman@unistra.fr)), Giacomo OGGIANO ([giacoggi@uniss.it](mailto:giacoggi@uniss.it))  
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