

## Goldschmidt 2017 pre-conference field trip - Friday 11<sup>th</sup>-Sunday 13<sup>th</sup> August

### **The South Armorican Shear Zone: exhumation of migmatites, emplacement of syntectonic granites and fluid-rock interaction**

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The South Armorican Shear Zone (SASZ) is one of the major Variscan deformation zones in Western Europe. It allowed exhumation of high-temperature (HT) units in the South. In addition, numerous syntectonic granites were emplaced during tectonic activity either along the SASZ itself, or along low-angle detachments. Finally, evolution to conditions of brittle deformation permitted the infiltration and circulation of surface-derived fluids in upper crustal levels.

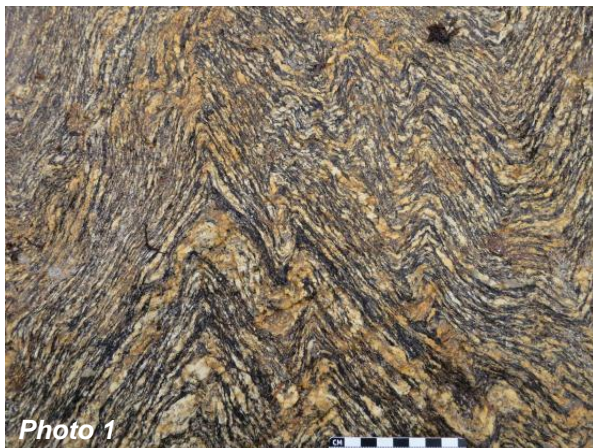
During this 3-days field trip, we will visit outcrops symptomatic of these events.

#### - Day 1: The South Armorican Shear Zone

- Deformation of Ordovician conglomerates in the Central Armorican Domain (outcrops of Rocher de Tréal and Landes de St Just, which are also two nice megalithic sites).
- The Questembert granite: observation of beautiful S/C structures in a quarry of international geological interest.

#### - Day 2: Exhumation of the lower crust

- Port-Navalo migmatites: a museum of lithologies from the lower crust (photo 1), remarkable HT metamorphic assemblages (photo 2), relations between exhumation and strike-slip deformation along the SASZ.



- Quiberon: exceptional outcrops of synkinematic pegmatites emplaced in a regional-scale detachment zone.
- Côte Sauvage de Quiberon: transition from ductile to brittle conditions during extension, infiltration of surface-derived fluids.
- (optional) Port Bara (Quiberon): infiltration of Triassic brines along secant vertical fractures, alteration of the granite.

- Day 3: The Guérande leucogranite

- The “Grotte à Madame” cross-section: Sn-mineralized quartz veins at the roof of the granite (photo 3), relations with host rocks deformation (tilted blocks of blue quartz-bearing meta-volcanites and black shales; photo 4).
- Piriac-sur-mer: detachment zone at the roof of the granite.



**Field trip organisation**

**Transportation:** Bus with driver

**Start:** Rennes train station, Friday 11<sup>th</sup> August 2017 at *ca.* 9.00am.

**End:** Rennes train station, Sunday 13<sup>th</sup> August 2017 at *ca.* 6.00pm.

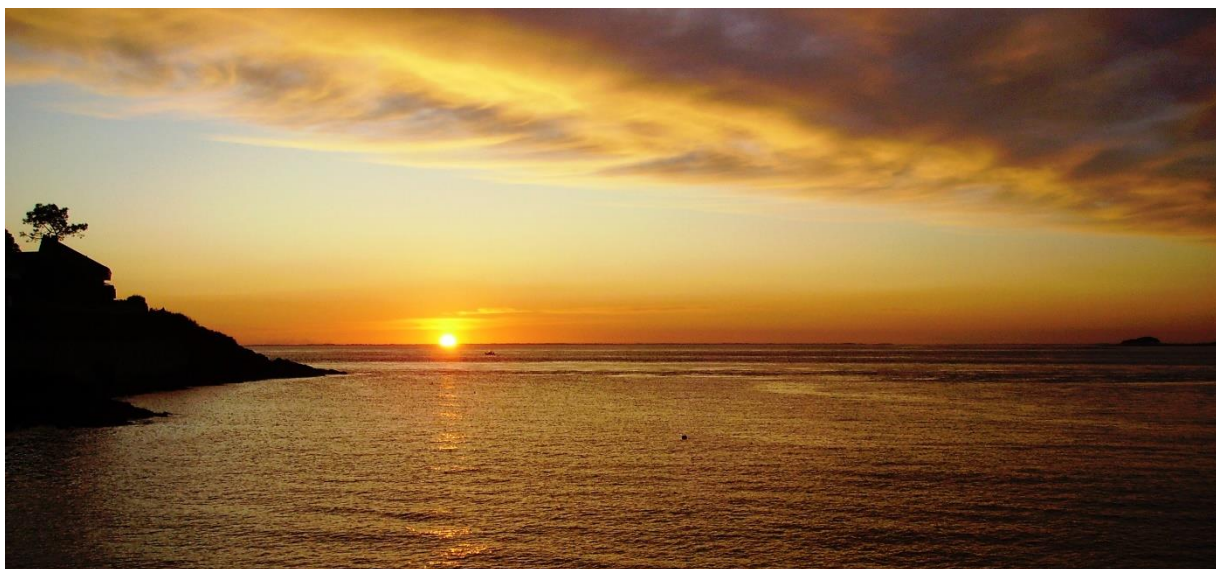
Participants can then make their way to Paris on Sunday evening for the start of Goldschmidt on Monday morning.

**Accommodation:** Twin rooms at hôtel Kyriad Vannes Centre (<http://www.kyriad-vannes.fr/>).

Dinners on both Friday and Saturday nights will be taken there (included in registration fees).

We will provide picnic lunches for the whole duration of the trip (included in registration fees).

Swimming costume recommended since most outcrops are located in very close vicinity to the sea!



*Sunset at Port-Navalo.*