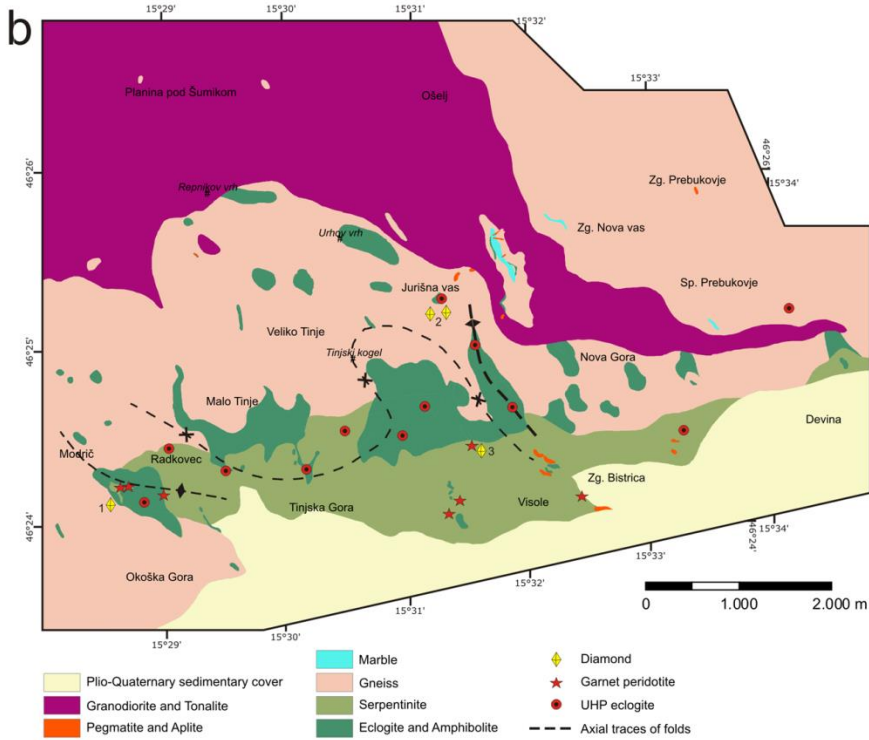
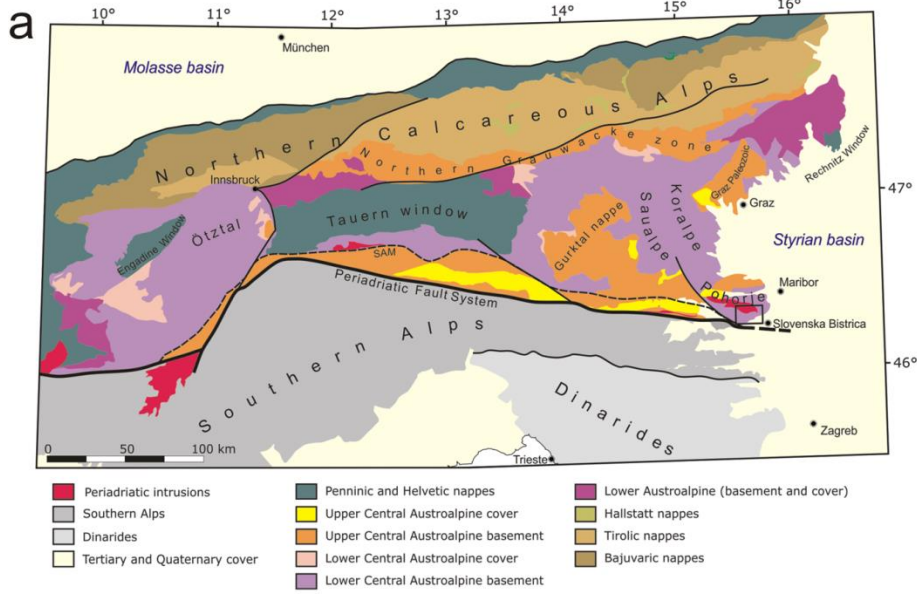
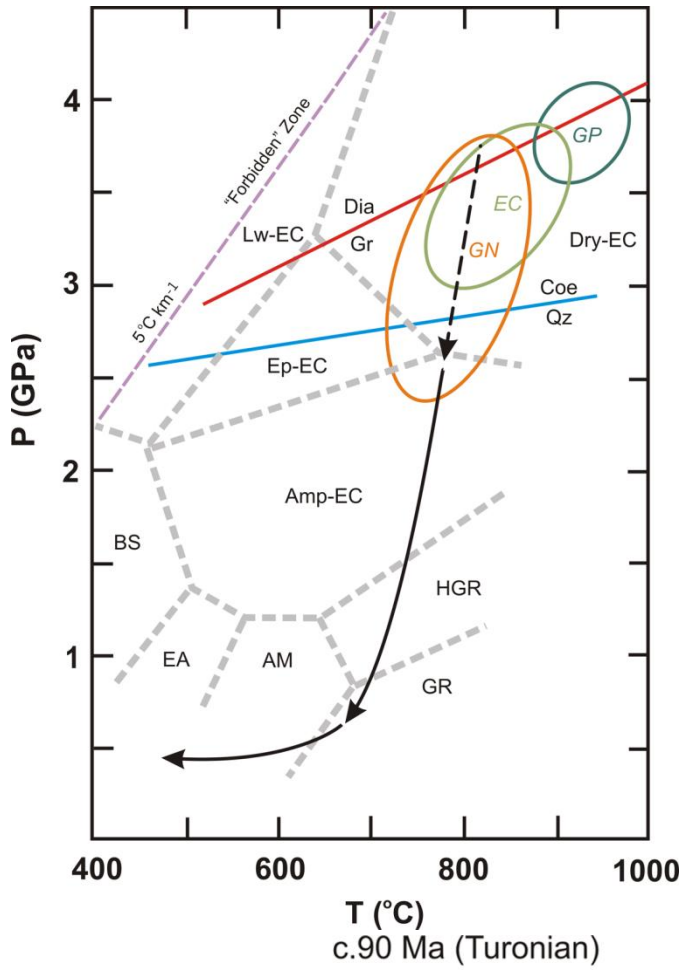


## High-and ultrahigh-pressure rocks of Pohorje – a window to deep subduction and lithosphere dynamics through geologic time

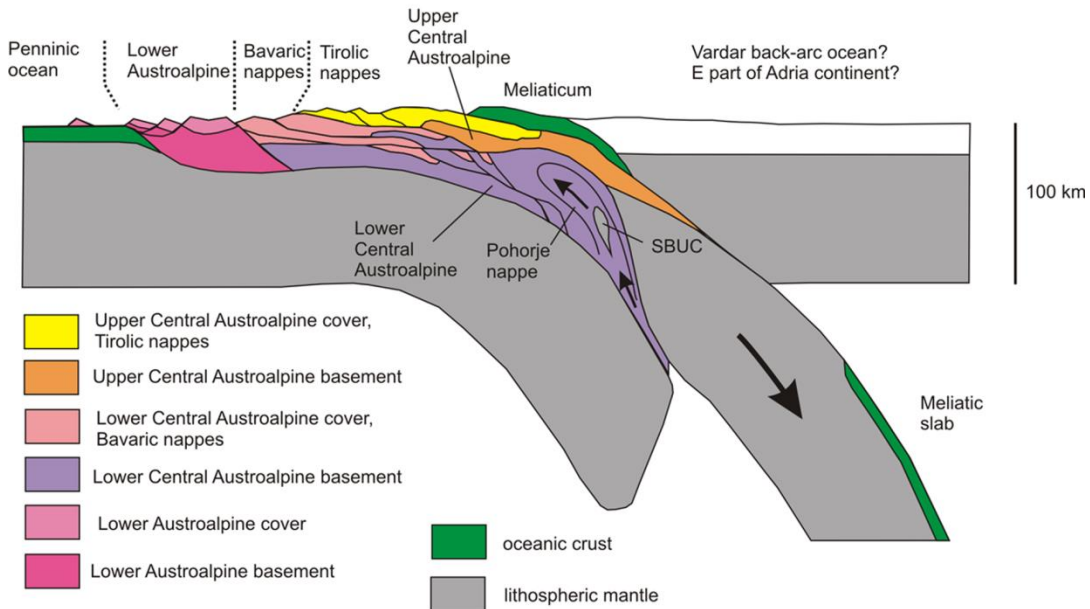
The Pohorje Mountains in north-eastern Slovenia are located at the south-eastern margin of the Eastern Alps (Fig. 1a), forming an antiform with an ESE-WNW- trending axis, the core of which is intruded by granodioritic to tonalitic plutons and pegmatites of Miocene age (Fig. 1b). Numerous eclogite bodies, partly amphibolitised, occur in the southeastern part (Fig. 1b), together with an 8 x 1 km<sup>2</sup> body of meta-ultramafic rocks, the Slovenska Bistrica Ultramafic Complex (SBUC). It comprises serpentinitised harzburgite with minor bodies of garnet peridotite. The Late Cretaceous (ca. 95-90 Ma) age of eclogite-facies metamorphism in the Pohorje nappe is documented by geochronological data. Similar ages were determined for eclogite-facies metamorphism in the Austroalpine areas (Koralpe and Saualpe) located northwest of the Pohorje Mountains. Identification of *in situ* metamorphic diamond in metasedimentary crustal rocks following previous microtextural and thermobarometric evidence from eclogites and garnet peridotites provides compelling evidence for UHP metamorphism in the Pohorje Mountains. Thermobarometric data on Pohorje rocks record peak-pressure conditions of up to 3.5-3.7 GPa at 800-850 °C in eclogites, 4.0 GPa at 900 °C in garnet peridotites and ≥3.5 GPa at 800-850 °C in diamond-bearing gneisses (Fig. 2). Pohorje UHP metamorphic terrane represents the most deeply subducted part of the Austroalpine units of the Alps (Fig. 3).





NW

SE



## Excursion itinerary: June 27<sup>th</sup> 2018

The conference excursion will go to the high and ultrahigh-pressure metamorphic terrane in Pohorje, Slovenia. This excursion offer possibilities to learn, discuss science, and interact with a broad range of international experts in the field.

Start of excursion: Seggau castle after breakfast (8:30)

Transportation to Pohorje from Seggau via Maribor - Slovenska Bistrica (ca. 1 hour)

Visit of outcrops north of Slovenska Bistrica: Slovenska Bistrica Ultramafic Complex (SBUC), including UHPM eclogites, serpentinites, garnet peridotites, kyanite-garnet gneiss (see figures below).

Return to Seggau: late afternoon

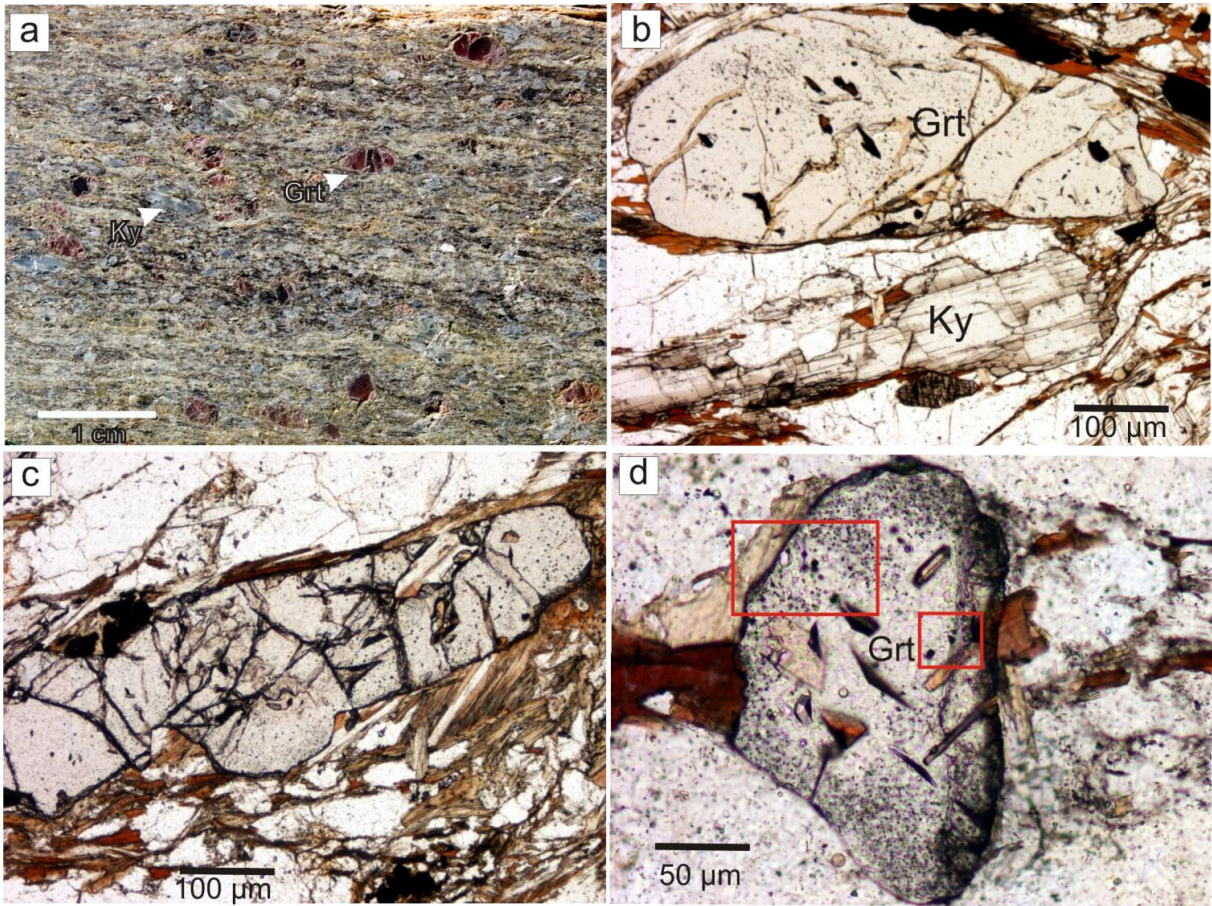


Kyanite eclogite (Vrabec et al., 2012, Lithos)





Garnet peridotite



Kyanite-garnet gneiss with diamond (Janák et al., 2015, JMG)

## Excursion leaders

Mirjam Vrabec, Department of Geology University of Ljubljana, Slovenia

Marian Janák, Earth Science Institute, Slovak Academy of Sciences, Bratislava, Slovakia

## Excursion information

The conference excursion will be in a mountainous landscape of bedrock hills and forest with outcrops along a narrow roads and valleys. Weather conditions can change rapidly from calm and sunny to rainy and windy. Therefore wind- and water-proof clothing and water-proof footwear are necessary. Note that the organizers and the field-trip leaders cannot be held responsible for illness or injury during participation; please make sure that you have made your own insurance arrangements.

