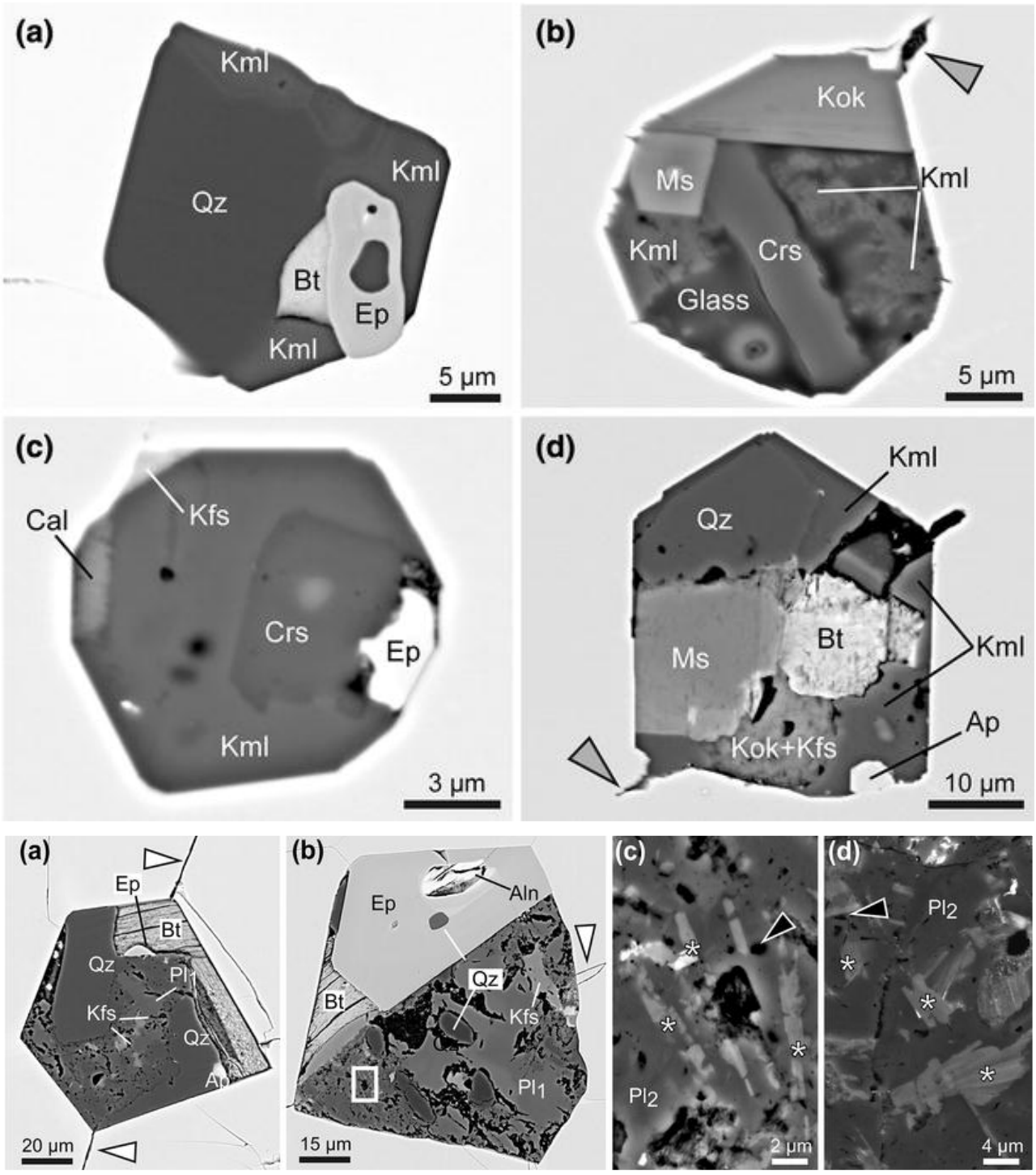

TRA MAGMATISMO E METAMORFISMO

LA FUSIONE CROSTALE RIVISITATA ATTRAVERSO LO STUDIO DI INCLUSIONI FLUIDE E DI FUSO IN GRANATO

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Fluids and melts are the main agents responsible for mass transfer and element recycling during subduction, thus playing a major role in the chemical evolution of the Earth.

Don Silvio Ferrero

While deep fluids are characterized through fluid inclusion studies in high-pressure (HP) and ultrahigh-pressure (UHP) rocks, partial melts produced during deep subduction have been mainly investigated via melting experiments.

Preserved portions of natural partial melt have been recently identified in HP felsic granulites of the Bohemian Massif as polycrystalline inclusions, also called *nanogranites*. Their characterization after experimental re-homogenization provided the first compositional data, including H_2O content, directly measured in situ of melt produced under near-UHP conditions, 875 °C and 2.7 GPa (Ferrero et al. 2015).

Through studies of nanogranites, partial melts can be characterized directly in the source rocks, most likely before any modification occurred.

This approach provides novel and crucial data necessary to better describe and quantify crustal differentiation as well as the influence of melting in the geodynamic evolution of orogens by providing reliable estimates of melt viscosity.