

## Presentation information

[E] Poster

S (Solid Earth Sciences ) » S-MP Mineralogy & Petrology

### [S-MP29] Oceanic and Continental Subduction Processes

Tue. May 28, 2019 10:45 AM – 12:15 PM

Poster Hall (International Exhibition Hall8, Makuhari Messe)

convener: REHMAN Ur Hafiz (Department of Earth and Environmental Sciences, Graduate School of Science and Engineering, Kagoshima University), Tatsuki Tsujimori (Tohoku University), Chin-Ho Tsai (Department of Natural Resources and Environmental Studies, National Dong Hwa University), Kazuaki Okamoto (Faculty of Education, Saitama University)

This JpGU-AGU joint session aims at bringing earth scientists from Japan and overseas to present their research related to the processes of oceanic and continent subduction, continent-continent collisions, metamorphism of crustal rocks, formation of the oceanic/continental arcs, and accretion/ tectonic erosion of material along subduction boundaries.

Topics such as role of the fore- and back-arcs in the subduction zones, process of accretion of volcanoclastic and terrigenous sediments along the subduction/collision boundaries, deformation and metamorphism of subducted crust, and exhumation will be the main focus of the session.

In addition to the above mentioned topics, our focus for the 10th anniversary of this international session will be towards our understanding and progress on the ultrahigh-pressure/temperature metamorphic terranes in the world.

Exchange of ideas among geoscientists applying different approaches on problems related to the theme of the session are most welcome.

### [SMP29-P08] Microfabrics of omphacite and garnet in eclogite from the Lanterman Range, northern Victoria Land, Antarctica

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Keywords: Eclogite, EBSD, Layered structure

Layered structures in metamorphic rocks are sometimes crucial to occur strain localization then affect to seismic properties. We conducted microstructural analyses omphacite and garnet in foliated eclogite from the Lanterman Range, northern Victoria Land, Antarctica, to determine the influence of the layered structure on seismic observations in subduction zone. The analyzed eclogite, composed of layered garnet-rich and omphacite-rich layers, shows the low aspect ratios, similar angular distribution of long axes relative to the foliation, uniform grain size distribution, near-random crystallographic preferred orientations (CPOs), and misorientation angle distributions of garnet and opposite characteristics of omphacite in both layers. The results of fabric analyses are consistent with strain localization into omphacite or omphacite-rich layers rather than garnet or garnet-rich layers. Our results therefore demonstrate the importance of the layered structure in strain localization and in the development of the seismic anisotropies of subducting oceanic crust.