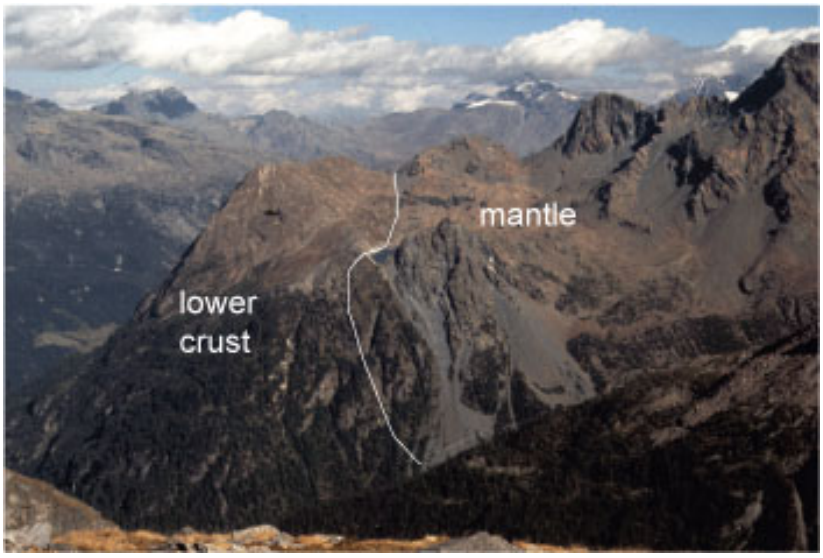
Post Goldschmidt 2009 conference field trip:

Permian fossil crust-mantle transition in Valmalenco, Bergell intrusion and its contact aureole

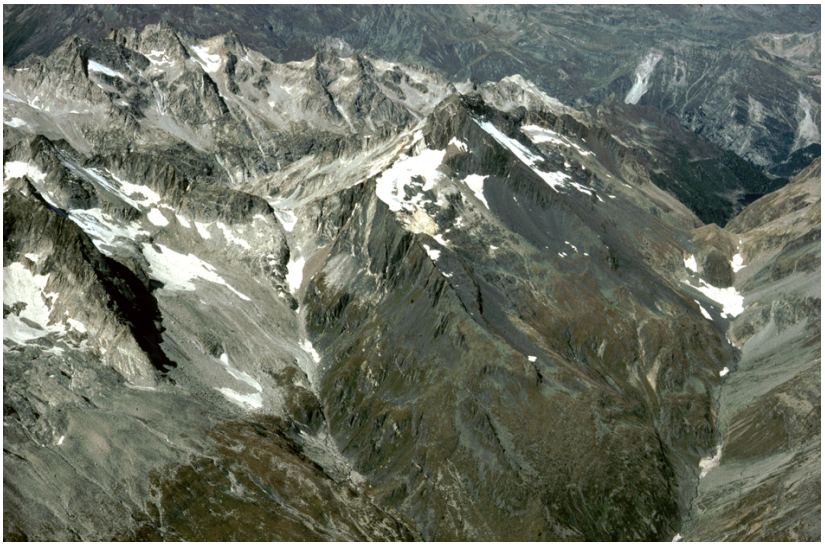
Guides:	Lukas Baumgartner, Othmar Müntener, University of Lausanne Eric Reusser, ETH Zurich
Duration:	3 days
Dates:	27. – 29. June 2009
Start:	7.30 am on Saturday 27. June from Davos
Finish: possibility	Late afternoon Monday 29. June at Chur railway station, to drive to Zürich
Cost:	**210 Euros**
No. of Participants:	Minimum 5, maximum 20
Special Requirement:	Note that for some passports, a visa is necessary to enter Italy. Strenuous walks on alpine trails require fitness and good hiking Equipment (mountain boots, anorak etc.).
Route:	Davos – Chiareggio (Valmalenco) – Lago Pirola (1. day) – Val Sissone (2. day) – Muretto pass – Maloja (3. day) – Chur – Zürich
Overnight stops:	Chiareggio (27/6 + 28/6)
Themes:	*Day 1:* Permian fossil crust-mantle transition, exposed during Jurassic rifting at the seafloor of the Piemont-Ligurian ocean. Petrology of the lower continental crust (granulite facies rocks, marbles, gabbros). Petrology of the subcontinental Malenco mantle. Differentiation of a gabbroic body intruding the crust-mantle boundary, and its interaction with the subcontinental mantle. *Day 2:* Bergell intrusion and its contact metamorphism. Origin and evolution of this 30 Ma old batholith of calc-alkaline affinity (gabbros and hornblendites, diorites, tonalites, granodiorites, aplites). Magma mingling and mixing phenomena. Contact metamorphism and metasomatism at the eastern margin: amphibolites, dolomitic marbles with different generations of veins. *Day 3:* Oceanic Forno series. Meta-basalts (amphibolites) with pillow structures and Cu-Fe-Mn ore bodies. Contact metamorphic pelitic rocks with andalusite, sillimanite. Alpine tectonics of a former passive continental margin.



Day 1: Fossil crust-mantle transition.



Day 1: Pyroxenite layers in serpentinised peridotites.



Days 2+3: Contact between Bergell intrusion (gray) and oceanic Forno series (black).



Day 3: Andalusite in meta-pelitic rocks at the contact to the Bergell intrusion.