MSc fieldwork opportunity in Permian sedimentary bed-rocks on Spitsbergen (Svalbard)

The Norwegian Polar Institute (NPI) encourages national and international collaboration with other educational institutes or universities in the field of bedrock geology within Norwegian polar areas. In this context, a fieldwork opportunity is offered for students at Master (MSc) level on Spitsbergen (Svalbard) in summer 2012.

The fieldwork is conducted in the frame of an international research project, entitled *Facies, geochemical signature and environmental variability of Permian strata and the Permian-Triassic boundary on Svalbard*

**Scientific context**

Scientific interest will be focused on the sedimentary strata of the Permian Kapp Starostin Formation (Tempelfjorden Group), which are exposed in a number of key localities in Spitsbergen.

The varied sediments of the Kapp Starostin Formation comprise cherts, strongly silicified limestones, glauconitic sandstones and black shales. These reflect a shallow to deeper marine, cool-water, mixed siliciclastic-carbonate shelf, which was strongly affected by climatic and environmental changes as well as eustatic sea-level fluctuations.

The transition into the Triassic is marked by an abrupt facies change into fine-grained, siliciclastic deposits, mainly composed of marine shales and siltstones. The abrupt termination of biogenic shelf sedimentation also displays the end-Permian mass extinction, a major extinction event in the stratigraphic record of earth history.

Targeted strata and scientific focus of the project provide an excellent potential for studies in the fields of sedimentology, palaeontology and/or stratigraphy. Depending on the analytical apparatus at the home institute, the MSc student is expected to accomplish a thesis by applying a combination of techniques in the fields of sedimentology (facies, microfacies studies), stratigraphy (sequence-, bio, magneto-, geochemical stratigraphy), palaeontology (micro-, macropalaeontology, palynology, palaeoecology) and/or geochemistry (stable
isotopes, sulphur isotope geochemistry, major and trace element analysis, carbonate content). A reasonable combination of the above mentioned methods should be chosen in order to investigate the palaeogeographic, palaeoceanographic, palaeoclimatic and/or palaeoecologic development.

**Financing**
Basic costs for the fieldwork in 2012 will be mainly covered by NPI and the University of Leeds (United Kingdom). Costs include transportation within Spitsbergen, accommodation, food supply and provision of equipment during the field campaign. The home university of the student should provide an own budget in order to cover additional travel expenses to Spitsbergen, analyses and materials, with details to be determined as part of a collaborative agreement.

**Supervision**
The student will partially be supervised by NPI geologists, while a formal supervisor is required at the student's home university or institute for the duration of the thesis, starting with the field season in Spitsbergen in summer 2012. During the duration of the thesis, it is expected that the student stays for a certain time period at the Norwegian Polar Institute in Tromsø (Norway), depending on research topics and applied methods. Results are expected to be presented at appropriate conferences and meetings and will be published in international journals.

**Fieldwork**
Geologic fieldwork on Spitsbergen will be organized and conducted by NPI for several weeks during July/August 2012. During this period, a number of lithostratigraphic sections, which form the basis of the MSc thesis will be established in different key locations in central Spitsbergen.

**Qualifications**
Potential candidates should be particularly interested and should possess good previous knowledge in sedimentology, stratigraphy, palaeontology and/or geochemistry. Candidates must be fluent in English. Knowledge of Norwegian is advantageous. The ability to work effectively in a team is also an essential requirement. In respect to fieldwork in Svalbard, candidates should be physically capable and medically fit to work under Arctic conditions.

**Deadline**
Prospective students, in accordance with a supervisor of their home university or institute, should express their interest immediately, so that preparatory discussions and the utilisation of funding can take place as soon as possible.

For applications and further information please contact:
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