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The bioavailability of iron exerts a controlling influence on the biological productivity in surface waters of the ocean and thus plays an important role in regulating atmospheric partial pressure of carbon dioxide (Buessler 2003). Although it is ordinarily observed that dramatic change in ionic strengths during estuarine mixing causes inorganic and organic iron bearing compounds to flocculate (Wen et al. 1999), recent studies showed that certain organic complexes between Fe^{3+} and terrestrially derived organic material escape the estuarine mixing zone and contribute essentially to the fertility of the coastal waters (Rose & Waite 2003). Therefore a research need lies in the characterization of the organic substances which are leaching from soils and serving as iron carriers in river water and coastal waters. The results are apt to show the role of the terrestrial ecosystem as a supplier of iron which is an essential nutrient for oceanic biota.
The methodology for investigation and characterization of iron-bearing colloids in soil leachates and the transect from freshwater to the ocean accounts for iron complexed by humic/fulvic acids as well as iron-oxide colloids/nanoparticles, which may be present in the sub-20 nm scale and covered by organic macromolecules as humic/fulvic acids. These small colloids may be stabilized against aggregation and settling by electrostatic and steric effects originating from the adsorbed organic macromolecules.
Standard cross-flow ultrafiltration is employed as a prefractionation and preconcentration step before analysis with size exclusion chromatography and field-flow fractionation both coupled to ICP-MS in order to localize the molecular/particulate structures responsible for iron-binding. Detailed characterization of colloidal iron carriers will be performed on waters from peat-bog draining creeks in Austria and UK. During the sampling campaigns 200-400 L of selected river and estuary water samples will be collected and processed to obtain 100-200 mL concentrates of 100-1000 mg L^{-1} DOC to determine the fate of iron carriers.
The presentation will give an introduction to the processes taking place on the transport pathway from peat-bog drainage to the estuarine mixing zone and show first results from the characterization of nanoscale iron-rich substances present in peat-bog drainage.

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Proposal for a lithostratigraphic revision of the Palaeozoic 'Schieferinsel' Area south of Eisenberg (Burgenland, Austria)

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A first detailed stratigraphic and petrographic overview of the sequence exposed at the Hohensteinmaißberg near Kirchfidisch was reported in an unpublished thesis by Pollak (1962). According to Flügel (1988) the sequence is assigned to the Blumau Formation. This unit, however, was established as subsurface formation defined by a drilling core some 30 km west of Kirchfidisch. Recent studies of the 'Baron von Kottwitz' quarry at Hohensteinmaißberg resulted in a proposal for renaming the sequence into Kirchfidisch Formation.
The entire formation measures approximately 40 metres, its boundary to the underlying unit is unknown due to non-exposure. The upper boundary is recognized by a distinct change from gray, well bedded dolostones to brownish shales/siltstones. The contact is tectonical.
Within the Kirchfidisch Formation 3 members are distinguished. The lower Member (Harmisch Member = village in the vicinity of the quarry) which is exposed near the quarry entrance is about 8 m in thickness. It consists of unfossiliferous phyllitic shales. Following the succeeding units outcropping towards the south a lithological change is visible which marks the base of the middle Member (Hohensteinmaißberg Member = outcropping hill). It consists of altered white calcareous marls (4 m in thickness) which are overlain by fine laminated limestones (17 m). The upper part of this member is represented by an interval of dolomitic siltstones. This unit is overlain by the upper Member (Kottwitz Member = old quarry name), which contains 7 m of well bedded dolostones and limestones. The middle part of this Member shows some minor variations. Limestone beds contain serpulid tubes (up to 80 percent of the rock) and are intercalated by thin layers of brownish siltstones.
According to conodont data (Icriodus woschmidti, Ozarkodina remscheidensis and a few simple cones) at least the upper Member of the Kirchfidisch Formation is assigned to the Lochkovian (Lower Devonian).
The Kirchfidisch Formation is overlain by monotonous brownish ferrous shales/siltstones with frequent Liesegang rings. This sequence of well bedded (2 to 8 cm) beds reaches up to ?40 m thickness in the 'Baron von Kottwitz' quarry. According to the exposure of its top in the abandoned quarry NE of Punitz the name Punitz Formation is proposed.

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Callovian radiolarians of siliceous limestones below the Hallstätter Salzberg, Northern Calcareous Alps

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The central Northern Calcareous Alps with the type localities for the Hallstatt and Dachstein nappes play a key role for the internal structure of the Northern Calcareous Alps. The classical locality of the controversy is the Hallstatt zone of the type locality Hallstatt, which, according to several authors, has been thrust over the Dachstein unit by far-distance transport, whereas other authors interpreted the salt-rich Hallstatt zone as a diapir penetrating the overlying Dachstein unit from a position below, and spreading over the Dachstein unit.
In the Northern Calcareous Alps, salt deposits of Permo-Triassic age are distributed and excavated. One of the key points to solve