



**Geologica Belgica**



## **Van den Broeck lecture 2016**

Brussels, 26.5.2016 pm

Dear Colleagues,

The Van den Broeck medal of the scientific association Geologica Belgica is awarded to a person with great merits for the advancement of geosciences in Belgium. It is an old tradition resumed again. The medal is named after Ernest Van den Broeck, eminent researcher and efficient organiser of regional stratigraphy, father of karst research in Belgium, contributor to the detailed geological map of Belgium and at the centre of the 19<sup>th</sup> century debate on the social and/or scientific relevance of the geosciences.

This year's laureate is Prof. Noël Vandenberghe (KU Leuven). The ceremony will be followed by the Van den Broeck lecture on the Oligocene, based on a lifetime of research unravelling the mechanisms of deposition of the sediments for which Belgium has become a world reference (see attached abstract).

The Van den Broeck lecture will be followed by presentations of the research highlights and programmes by younger geoscientists recently nominated in an academic position.

**Location:** Auditorium, Natural History Museum, Royal Belgian Institute of Natural Sciences

### **Programme for Thursday 26 May pm:**

14 h Van den Broeck medal ceremony and lecture by Noël Vandenberghe "Tectonic and Climatic signals in the Oligocene sediments of the Southern North-Sea Basin"

15h20 Gert Jan WELTJE (KU Leuven) "Quantitative analysis of siliciclastic sedimentary systems"

15h50 Thijs VANDENBROUCKE (UGent) "Ice, Death & Metals in the early Palaeozoic"

16h20 closure of the session

*Following the attacks perpetrated on Tuesday 22 March 2016, the meeting initially foreseen on March 24 had to be postponed. We cordially invite you, colleagues and students, again to attend this open session and become well informed on fundamental geological research topics in Belgium.*

Michiel Duser  
president

Sara Vandycke  
secretary

# **Tectonic and Climatic signals in the Oligocene sediments of the Southern North-Sea Basin**

Noël Vandenberghe

**Abstract.** The Oligocene sediments formed between the Pyrenean and Savian tectonic pulses. The earliest Oligocene was characterised by a widespread shallow water transgression. Global cooling coincided with the subsequent retreat of the sea which is also the time of the Grande Coupure faunal turnover. Renewed stepwise transgression resulted in the deposition of the Boom Clay during the Rupelian. High frequency cyclic changes in water depth of the Boom Clay are driven by waxing and waning of ice masses while lower frequency tectonic signals can be demonstrated. By the end of the Rupelian, differential vertical tectonics resulted in considerable erosion in the west and shallower water depth in the east. Subsidence of the Lower Rhine graben resumed at the start of the Chattian. The sea could only briefly transgress the area outside the graben but thick Chattian sediments are preserved in the graben. Outside the graben, erosion continued to dominate during the Chattian and the Aquitanian. This long period above sea level is due to a combination of the Savian tectonic uplift pulse and a low sea level.