



**UNIVERSITATEA OVIDIUS CONSTANTA**  
**FACULTATEA DE MATEMATICA SI INFORMATICA**  
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**Catedra de Matematica a Facultatii de Matematica si Informatica anunta Sesiunea deschisa a Masteratului de Didactica Matematica, in data de **21 octombrie 2006, la ora 9.00.****

**In cadrul sesiunii, Profesorul NICOLAS ROUCHE de la Universitatea Catolica din Louvain, Directorul Centrului de Cercetare in Didactica Matematicii din Nivelles, Belgia, va sustine conferintele:**

## **THE OUTGROWTH OF THE LINEAR STRUCTURE**

We will first exhibit the very roots of the linear structure, beginning with proportionality between magnitudes, when they are not yet measured (as in Book 1 of Euclid's Elements). Next, the notion of proportionality goes through a significant mutation with the introduction of measures (measuring itself being a linear operator): this is the realm of positive numbers, from naturals to rationals and reals. Another drastic mutation is when negative numbers come into play. Then, with the advent of vectorial quantities, proportionality has to be transformed into the linear structure in its full meaning. Isn't it a source of intuitions and original understanding for a student to realize that the abstract linear structures are at the end of a long journey, where every mutation, i.e. every generalization, has a raison d'être?

## **THE FAMILIAR SOURCES OF GEOMETRY**

Geometrical thought begins not with axioms and foundational concepts, but with everyday objects, actions and situations. We will try to show how the first geometrical notions emerge and evolve in relation with some a priori non geometrical notions such as the vertical, the horizontal, the symmetry of the human being sense organs, the perception of continuous motions, etc. We will also try to show when and how the necessity appears to rely more on reasoning than on intuition. Our main inspiration comes from Clairaut, Mach and Freudenthal.

**Sunt invitati sa participe cadrele didactice din invatamantul preuniversitar si elevii interesati. Sesiunea se desfasoara in **Sala E8** din **localul Facultatii de Matematica si Informatica, Bd. Mamaia 124.****