Přednášky se konají v 17:00 v posluchárně M1 na Janáčkově nám. 2a v Brně, pokud není explicitně uvedeno jinak.

1. března

Richard Delanghe (Gent, Belgie)
Clifford algebras in analysis: an introduction

Abstrakt:

The importance of Clifford algebras - originally called by W.K. Clifford "geometric algebras" - essentially lies in the fact that they incorporate inside one single structure as well the inner product as the wedge product of vectors. Some of these algebras were used by physicists such as Pauli, Dirac and Majorana to describe properties of elementary particles. They were first introduced in analysis by Fueter in the 1940's, after he had been working out the foundations of a function theory in three and four dimensional Euclidean space based on Hamilton's algebra of real quaternions. A systematic study of a function theory related to the Dirac operator in Euclidean space was developed ever since the end of the 1960's. The subject is nowadays referred to as Clifford analysis: it offers as well a direct generalization to higher dimension of the classical theory of holomorphic functions in the complex plane as a refinement of the theory of harmonic functions. In this introductory talk, we focus on some basic aspects of Clifford algebras and Clifford analysis: Part I: Algebraic and geometric tools Part II: Basic function theory Part III: Applications to harmonic analysis