1022-32-37   **Michael Shapiro*** (`shapiro@esfm.ipn.mx`), Av. IPN, Unidad ALM, ESFM, 07338 Mexico City, D. F., Mexico. *The Bochner-Martinelli integrals in the context of Dirac operators.*

The terms quaternionic and Clifford analyses are commonly referred to the function theories for the corresponding Dirac-type operators which bear there many other names, such as the Fueter operator, the (quaternionic and Cliffordian) Cauchy-Riemann operators, the Moisil-Theodoresco operator, etc. A remarkable feature of each of those theories is the existence of an integral representation with a Cauchy-type kernel which is universal, reproducing and of the same class as the functions under consideration.

In the talk, it is supposed to explain how the Bochner-Martinelli kernel in two complex variables is related to the Cauchy kernel of quaternionic analysis and the same kernel in any complex dimension is related to the Cauchy kernel of Clifford analysis, and how this can be employed in the study of Bochner-Martinelli integrals; in particular, how the theory of Bochner-Martinelli integrals over rectifiable surfaces can be developed. The latter is based on a joint research with R. Abreu-Blaya and J. Bory-Reyes. (Received September 05, 2006)