1144-32-81 **Alain Yger*** (yger@math.u-bordeaux.fr), Institut de Mathématiques, 351 Cours de la Libération, 33405 Talence, France. *Multivariate residue calculus with an eye towards non-commutative algebra.* Preliminary report.

Multivariate residue calculus has been developed within the last thirty years as a powerful tool towards division or interpolation questions in commutative algebra as well as complex geometry. In this talk, I will focus on the intimate relation between the concept of multivariate residue and that of trace in operator theory. I will also present how some aspects of such theory could be transposed towards a non-commutative setting, as for example Principal Value distributions and related residue currents through ad hoc d-bar operators, Cauchy-Weil formulas and Bergman-Weil expansions, integration currents over zero sets and Lelong equations, ... I will show how the (commutative, but with zero divisors) bi-complex setting as well as the (non-commutative) quaternionic setting provide frames for such potential applications. (Received August 12, 2018)