

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

June 22 **Octavio Arizmendi**, CIMAT Guanajuato

Title: *Second Order Cumulants: second order even elements and R-diagonal elements*

In this talk we will explain recent work with James Mingo on developments on the combinatorial theory of second order freeness. We extend the notions of R-diagonal and even operators to second order level. We derive basic closure properties and formulas for second cumulants. As applications we describe second cumulants of operators coming from important random matrix models such as compound Wishart matrices.