POEMA

Meeting Type	***POEMA 2nd Workshop***
Date	***20 October 2020***
Time	***09:30 – 15:30 CEST***
Speakers	***Sabine Burgdorf (University of Konstanz)*** ***Jakub Marecek (Czech Technical University in Prague)*** ***Lucas Slot (CWI)*** ***Adam Kurpisz (ETH Zurich)***
No of attendants	***50***

Talk: Non-commutative polynomial optimization Sabine Burgdorf (University of Konstanz)	• Victor Magron: Related to the NC RAG consequence: is there an example of trace positive polynomial on the matricial NC cube which does not admit an NC Putinar representation? • Alejandro Gonzalez Nevado: Are there still open weaker versions of the Connes' embedding problem that could be true? • Victor Magron: The last summand is a sum of commutators, right? • Victor Magron: Recent news: there is a flaw in the paper, see https://mycqstate.wordpress.com/ • Victor Magron: The one disproving Connes embedding conjecture • Ion Nechita: Well, there was a flaw in a previous paper • Sandergribling: The authors have fixed this flaw though • Victor Magron: They wrote a patch: https://arxiv.org/abs/2009.12982
Talk:The Lasserre hierarchy for binary polynomial optimization by Lucas Slot (CWI)	• Victor Magron: Could this analysis be extended to maxcut problems? • Ngoc Hoang Anh MAI: Do you think what is the most expensive part in your method to apply binary polynomial optimization in practice? • Frank Vallentin: How does the convergence rate change when going from the binary cube to the unit sphere? • Victor Magron: Is there a connection between your orthogonal polynomials (Krawtchouk) and the Christoffel-Darboux kernel associated to the measure omega? • Victor Magron: It's the sum of squares of orthogonal polynomials associated to the measure • Victor Magron: More accurately it's K(x,y) = sum Pi(x) Pi(y) where (Pi) is a basis of orthonormal polynomials w.r.t. the measure, assumed to be absolutely continuous