1154-08-2030 **Michael Kompatscher*** (michael@logic.at). *Topology is relevant (in discussing the complexity of ω-categorical CSPs).*

It is well-known that the complexity of the CSP of a finite structure A is determined by its polymorphism clone Pol(A). This universal algebraic approach resulted in the proofs of the dichotomy conjecture by Bulatov and Zhuk, showing that CSP(A) is NP-complete if there is a minion homomorphism from Pol(A) to the projection clone and in P otherwise.

In general, omega-categorical structures are the biggest class where the universal algebraic approach is applicable. However then also the topology on Pol(A) is relevant, as NP-hardness of CSP(A) follows from uniformly continuous minion homomorphism to the projection clone. And by a result of Bodirsky, Mottet, Olšák, Opršal, Pinsker and Willard, there is an omega-categorical structure A, such that Pol(A) has a minion homomorphism to the projections, but no uniformly continuous one.

However their example required an infinite signature. In this talk I would like to discuss the construction of such A in finite relational language. In particular, this allows a discussion of the complexity of the resulting CSPs. As it turns out, we can obtain such A with coNP-complete, k-EXP-time and undecidable CSPs.

This is joint work with Pierre Gillibert, Julius Jonušas, Antoine Mottet and Michael Pinsker. (Received September 17, 2019)