From symmetric Leibniz algebras to Lie-admissible algebras and their Koszulity.

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Abstract: In this talk I will first recall the definitions and basic properties of symmetric Leibniz algebras and symmetric dialgebras, which are modifications of (left/right) Leibniz algebras and dialgebras.
For the case of (left) Leibniz algebras it is well known that there exists a functor which when applied to the sequence Lie -> Ass -> Com of operads yields a sequence Leib -> DiAss -> Perm. Here DiAss (Perm resp.) is the operad of diassociative algebras (Perm-algebras resp.). We define symmetric Perm-algebras, which are already known as 3-abelian algebras, to obtain a similar functor for symmetric algebras. We also consider the Koszul dual of this sequence. Here the well-known Lie admissible algebras appear and two types of new algebras. Finally, we want to check whether the involved operads are Koszul or not and commend on the corresponding cohomologies, which are not all known.