Prof. Dr. Dirk Kreimer (IHES, Frankreich)
The gravity powercounting and ideals in perturbative gravity

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We emphasize the very particular powercounting which any perturbative expansion of gravity has. We then analyze this expansion using techniques introduced in the previous talks, and in particular identify co-ideals in this expansion. We then show how these co-ideals relate to co-ideals in the core Hopf algebra recently identified in the formulation of renormalization as a limiting mixed Hodge structure.

Recursive relations of on-shell tree-level amplitudes in many gluon or graviton scattering amplitudes respect the above co-ideals. We discuss how multi-leg and multi-loop expansions come together here.

For further information please have a look at
http://math.bu.edu/people/dkreimer/structure.html.

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