I will review how the full space-time can be then thought as a collection of four-dimensional polytopes and how a discrete version of General Relativity is recovered in the semi-classical limit.

Abstract Submitted
for the MAS17 Meeting of
The American Physical Society

Quantum Gravity made from quantum polyhedra PIETRO DONA, Pennsylvania State Univ — The geometry of space at the Plank scale in Loop Quantum Gravity has a discrete structure. The grains of space have a quantum behavior and their semi-classical limit are classical euclidean polyhedra. The dynamics of the theory is encoded in transition amplitudes between geometries tessellated with polyhedra cells. I will review how the full space-time can be then thought as a collection of four-dimensional polytopes and how a discrete version of General Relativity is recovered in the semi-classical limit.

Pietro Dona
Pennsylvania State Univ

Date submitted: 29 Sep 2017 Electronic form version 1.4