

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

NON ADDITIVE GEOMETRY

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CCDS 365, Apr 10, 2024, 4-5pm

Tea: 3:45pm in Room 365

Abstract: The usual dictionary between geometry and commutative algebra is not appropriate for Arithmetic geometry because addition is a singular operation at the “Real prime”. We replace Rings, with addition and multiplication, by Props (=strict symmetric monoidal category generated by one object), or by Bioperad (=two closed symmetric operads acting on each other): to a ring we associate the prop of all matrices over it, with matrix multiplication and block direct sums as the basic operations, or the bioperad consisting of all row and column vectors over it. We define the “commutative” props and bioperads, and using them we develop a generalized algebraic geometry, following Grothendieck footsteps closely. This new geometry is appropriate for Arithmetic (and potentially also for Physics).

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin (yslin@bu.edu) or Brian Williams (bwill22@bu.edu) for more information.