

LUNCH SEMINAR FOR GRADUATE STUDENTS

How do you divide your (two-dimensional) time? SLE and the quantum gravity zipper

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ABSTRACT:

Liouville quantum gravity, originally proposed in the physics literature as a model for the intrinsic Riemannian geometry on the space-time trajectory of a string, is a canonical notion of a random two dimensional geometry.

The Schramm-Loewner evolution (SLE) has its origins in two-dimensional statistical physics, and is a canonical notion of a random non-self-crossing path in the plane.

It turns out that SLE is the right tool for understanding how to combine and subdivide the random geometries of Liouville quantum gravity. When we "glue" or "conformally weld" independent random surfaces to each other, the interfaces between the surfaces become forms of SLE. To use yet another metaphor, when we "zip together" random surfaces over time, the zipping/unzipping processes will turn out to have some rather elegant symmetries.

MONDAY, SEPTEMBER 20, 2010

12:00 Noon

Building 2, Room 147

*Pizza and beverages at 1:00 PM
Building 2, Room 290*

<http://math.mit.edu/seminars/lunchseminar/>



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