

HARVARD UNIVERSITY
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Tuesday, March 2, 2021, at 10:00 (Boston)
15:00 (UK/Eire) 16:00 (C.Europe) 23:00 (China)
Mathematical Picture Language Seminar

Zoom at: <https://harvard.zoom.us/j/779283357?pwd=MitXVm1pYUIJVzZqT3lwV2pCT1ZUQT09>

Integrability of Liouville Theory
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Abstract: A. Polyakov introduced Liouville Conformal Field theory (LCFT) in 1981 as a way to put a natural measure on the set of Riemannian metrics over a two dimensional manifold. Ever since, the work of Polyakov has echoed in various branches of physics and mathematics, ranging from string theory to probability theory and geometry. In the context of 2D quantum gravity models, LCFT is related through the Knizhnik-Polyakov-Zamolodchikov relations to the scaling limit of Random Planar Maps and through the Alday-Gaiotto-Tachikava correspondence LCFT is conjecturally related to certain 4D Yang-Mills theories. Through the work of Dorn, Otto, Zamolodchikov and Zamolodchikov and Tschner LCFT is believed to be to a certain extent integrable. I will review a probabilistic construction of LCFT and recent proofs concerning the integrability of LCFT developed together with F. David, C. Guillarmou, R. Rhodes and V. Vargas.

