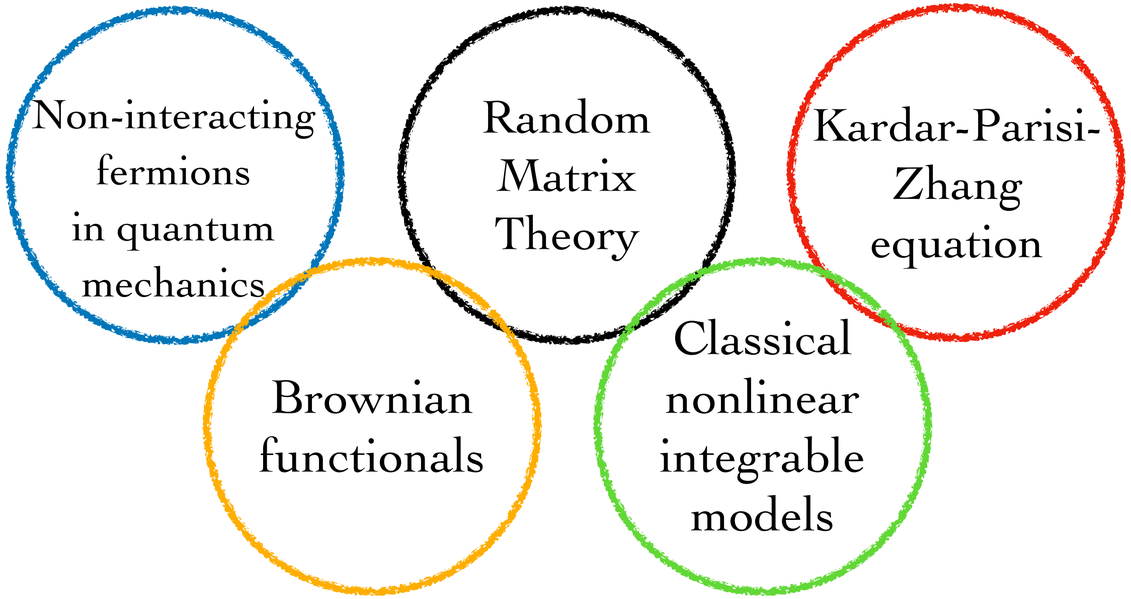
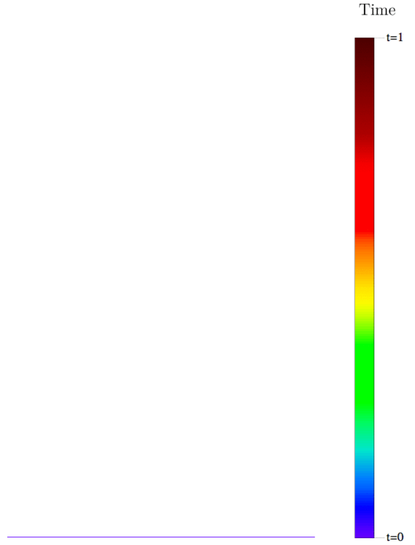
Alexandre Krajenbrink

McDuff Postdoctoral Fellow

Pierre Le Doussal → ENS ÉCOLE NORMALE SUPÉRIEURE (1794) → Pasquale Calabrese → SISSA Scuola Internazionale Superiore di Studi Avanzati → Mark Adler → MSRI





- Explicit solutions of KPZ (on $\mathbb{R}$ or $\mathbb{R}^+$).

(P. Le Doussal, G. Barraquand)

- Large deviations of KPZ & RMT, (a.k.a unifying nonlinear steepest descent, WKB analysis of stochastic operators and integro-differential systems, Coulomb gases, expansion of the KP equation & cumulant summations)

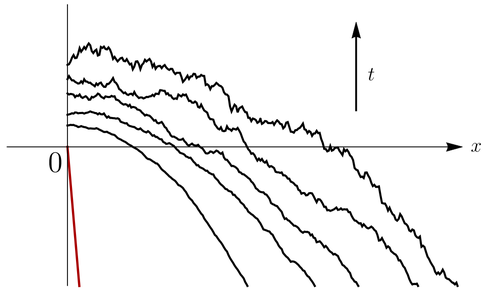
(P. Le Doussal, S. Prolhac, I. Corwin, P. Ghosal, L.C. Tsai)

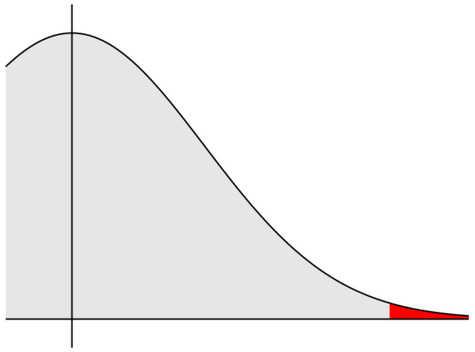
- Explicit solution of non-linear integrable integro-differential systems with Fredholm determinants (NLS, KdV, Painlevé…) on $\mathbb{R}$ or $\mathbb{R}^+$.

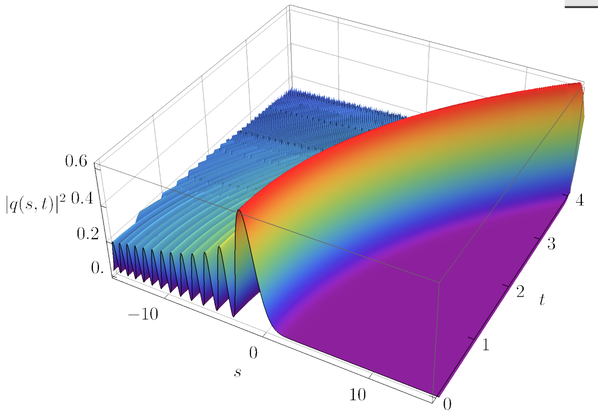
(P. Le Doussal, T. Bothner)

- Use of Fredholm determinants in the numerical analysis of the inverse scattering transform in integrable systems.

- Application of RMT to the theory of inference (J. Barbier) & bio-statistics







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Inverse Scattering of the Zakharov-Shabat System Solves the Weak Noise Theory of the Kardar-Parisi-Zhang Equation

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