Singular quasilinear SPDEs

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We overview some recent results on quasilinear stochastic PDEs. The developments for fully parabolic (nondegenerate) equations have led to expansions of the theories of regularity structures and paracontrolled distributions, as well as to some unexpected connections to renormalisation symmetries. On the other hand, degenerate equations are far less understood, and even for equations with an Itô structure often only martingale solutions are available, natural uniqueness questions are still open. Based on joint works with Y. Bruned, K. Dareiotis, B. Gess, M. Hairer.