Finite and infinite random Jacobi matrices.

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My talk is about the spectral theory of Schrödinger and related operators. Physical models lead to tridiagonal matrices with one or more random diagonals. We discuss new results on finite and (one- or two-sided) infinite configurations in 1D and relate their spectra to each other. Moreover, we discuss a projection method for the numerical solution of such equations $Ax = b$ in infinitely many variables. Interestingly, the theory of random one-sided and two-sided infinite tridiagonal matrices shows great similarities to the cases of constant diagonals (i.e. Toeplitz and Laurent operators).