



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

**Emergence of integrable models in external potentials:
Duality, Solitons and Field theory.**

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Date: April 09, 2018

Time: 11:30 am

Venue: A-304, TIFR



I will discuss the Calogero family of models which remarkably remain integrable even in external quartic, trigonometric and hyperbolic potentials [1]. I will derive its dual form and corresponding soliton solutions for finite dimensional systems. The property of duality is exploited to restrict the space of initial conditions which yield to soliton solutions. I will then give a collective field formulation of these models and derive the corresponding soliton solutions in terms of meromorphic fields. I will also present some very preliminary results on the elliptic case.

[1] M. Kulkarni, A. P. Polychronakos, J. Phys. A: Math. Theor. 50 455202 (2017)