

# Dualities of Integrable Field Theories from 4d Chern-Simons Theory

*Monday 15 July 2024 16:00 (20 minutes)*

In this talk, I will explore dualities of integrable field theories through the lens of four-dimensional Chern-Simons theory, where these dualities can be viewed as dualisations of order surface defects. I will begin by discussing a type of duality that emerges from the discretisation-induced dualities of surface defects. Following this, I will delve into the anomaly-inflow mechanism for surface defects, which leads us to a second form of duality. This type of duality arises from the bosonisation of free-fermion surface defects, leading us to bosonisation dualities between generalisations of the massless Thirring model and coupled Wess-Zumino-Witten (WZW) models. This talk is based on work [hep-th/2309.14412] with Jun-ichi Sakamoto and Masahito Yamazaki.

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