



## Analysis Seminar

**Title:** Title: Extending rational expanding Thurston maps

**Speaker:** Julia Munch (University of Liverpool)

**Date:** Tue 7th April 2026 at 3:00PM

**Location:** E0.32 (beside Pi restaurant)

**Abstract:** In this talk I will present an extension result. We showed that one can extend rational expanding Thurston maps on the Riemann sphere to uniformly quasi-regular mappings of  $\mathbb{R}^3$ . *There are two main motivations, one comes from the theory of quasi-conformal mappings and one comes from generalising complex dynamics.*

Quasi-conformal mappings occur naturally in many areas of analysis, however the notion is not preserved under products and it is not easy to extend a given quasi-conformal map  $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$  to a quasi-conformal map  $F: \mathbb{R}^{(n+1)} \rightarrow \mathbb{R}^{(n+1)}$ . *Our result can be put in that context.*

The second motivation is to generalise holomorphic dynamics to higher dimensions. Quasi-regular mappings on  $\mathbb{R}^n$  are a natural generalisation of holomorphic maps in  $\mathbb{C}$ . *The dynamics is periodic, but it is difficult to find interesting examples of such maps.*

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