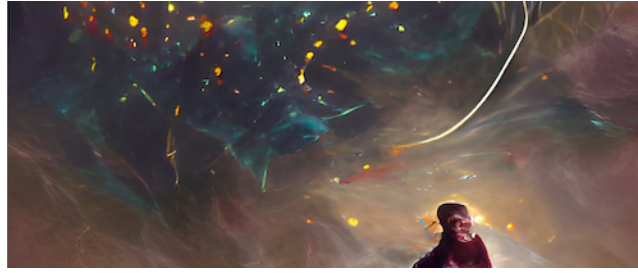


# Cosmic Cartography 2022: Exploring the Cosmic Web and Large-Scale Structure



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## The Lyman-alpha Tomography IMACS Survey

*Thursday, 10 March 2022 10:50 (30 minutes)*

The “cosmic noon” era is recognized as pivotal, but it has been challenging to connect early galaxies’ properties to the large-scale structures in which they are growing. An exciting method to chart the  $z\sim 2.5$  universe is to map the intergalactic medium by measuring Lyman-alpha absorption in the spectra of many faint galaxies. These maps provide a unique means to detect and study protoclusters that is largely independent of their galaxy content. We have nearly finished mapping 1.7 sq. deg. of the  $z=2.2-2.8$  universe in several survey fields via the Lyman-alpha Tomography IMACS Survey (LATIS) at Magellan. I will describe the survey, the connection between large-scale Lyman-alpha absorption and the LATIS galaxy density, and most interestingly, the places where this connection breaks down.

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**Session Classification:** Day 4 Morning