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## Improving Neutrino Oscillation Measurements by using the Earth's layer structure

*Friday 31 March 2023 13:00 (20 minutes)*

One persisting question of the Standard Model and particle physics is the Neutrino Mass Ordering. Even though we know that neutrinos have masses, we do not know how these masses are ordered from lowest to highest. Because of the quantum-mechanical nature of neutrinos and their reluctance to interact, measurements of their properties are difficult and convoluted. I will show how the earth's layer structure helps us make precise measurements of the Standard Model and present current estimates of the IceCube Upgrade's sensitivity to the Neutrino Mass Ordering.

### Field of study

Quantum Physics

### Supervisor

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**Session Classification:** Oral presentation