# JRG SELECTION SYMPOSIUM

# Non-Lorentzian field theory: gravity and topological matter


## Dr. Patricio Salgado-Rebolledo

*APCTP, Korea*


**July 29th (Tue.) 14:00-14:40**

**#512, APCTP & Online via Zoom**


Non-Lorentzian field theories and geometries have attracted increasing attention in recent years due to their broad applications in high-energy physics, hydrodynamics, cosmology, and condensed matter systems. In this talk, I will provide an overview of my research, focusing on the applications of non-Lorentzian field theory in the description of gravity and in the construction of effective models for certain topological phases of matter. I will discuss my current research goals and ongoing projects in these areas, and outline my future research directions.



The APCTP is supported by the Korean Government through the Science and Technology Promotion Fund and Lottery Fund and strives to maximize public value through its various activities.
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# JRG SELECTION SYMPOSIUM

# Efficient Measurement Schemes for Practical Quantum Computing


## Dr. Daniel McNulty

*University of Bari, Italy*


**July 29th (Tue.) 14:50-15:30**

**#512, APCTP & Online via Zoom**


Efficient extraction of information from quantum computers is a critical bottleneck for realizing practical quantum advantages in areas such as computational chemistry, combinatorial optimization, and quantum simulation. A key challenge, especially for today's small-scale quantum devices, is the inability to simultaneously measure many physically relevant observables—a fundamental limitation that hinders the performance of variational quantum algorithms, currently among the most promising approaches for near-term quantum speedups. In this talk, I will present my current research on developing efficient and noise-resilient measurement schemes aimed at improving the scalability and reliability of quantum algorithms on existing hardware. I will then outline future plans to develop a theoretical framework for characterising measurement resources in noisy quantum systems, with the goal of enabling quantum speedups in practical applications.



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