

Session Program

Sep 16 - 20, 2024

Causalworlds

Session A

Perimeter Institute for Theoretical Physics, PI/1-100 - Theatre

Mon, September 16

1:45 PM

Session A: Classical Causal Inference

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

13:45 - 14:10 **Modeling Latent Selection with Structural Causal Models**

Speaker

Leihao Chen

14:10 - 14:35 **Zero Inflation as a Missing Data Problem: a Proxy-based Approach**

Speaker

Trung Phung

14:35 - 15:00 **Which causal scenarios might support non-classical correlations?**

Speaker

Shashaank Khanna

3:00 PM

Tue, September 17

1:45 PM

Session A: Classical Causal Models

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

13:45 - 14:10 **What, in the world, is a violation of causal faithfulness?**

Speaker

Patrick Fraser

14:10 - 14:35 **Classical causal models in string diagrams**

Speaker

Robin Lorenz

14:35 - 15:00

Identifying classical Markovian causal models from generalized observation

Speaker

Isaac Friend

3:00 PM

3:45 PM

Session A: Quantum causality and compositionality

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

15:45 - 16:10 **Causally faithful unitary circuit decompositions**

Speaker

Tein van der Lugt

16:10 - 16:35

Partitions in quantum theory, and causal decompositions of 1D Quantum Cellular Automata

Speaker

Augustin Vanrietvelde

16:35 - 17:00

Causality of meaning in compositional language models (an invitation to collaborate)

Speaker

Bob Coecke

5:00 PM

Wed, September 18

3:45 PM

Session A: Quantum Causal Models

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

15:45 - 16:10

QUANTUM LATENTS: DISTINGUISHING CAUSAL SCENARIOS WITH INDISTINGUISHABLE CLASSICAL ANALOGS

Speaker

Daniel Centeno Díaz

16:10 - 16:35

Cyclic causal modelling with a graph separation property in classical and quantum theories

Speaker

Carla Ferradini

16:35 - 17:00

A Semantics for Counterfactuals in Quantum Causal Models

Speaker

Eric Cavalcanti

5:00 PM

Thu, September 19

3:45 PM

Session A: Network nonlocality 1

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

15:45 - 16:10

Two convergent NPA-like hierarchies for the quantum bilocal scenario

Speaker

Xiangling Xu

16:10 - 16:35

Escaping the Shadow of Bell's Theorem in Network Nonlocality

Speaker

Maria Ciudad Alañón

16:35 - 17:00

Observational-Interventional Bell Inequalities

Speaker

Davide Poderini

5:00 PM

Fri, September 20

3:45 PM

Session A: Network Nonlocality 2

Session | **Location:** Perimeter Institute for Theoretical Physics, PI/4-405 - Bob Room

15:45 - 16:10 **Quantum non-classicality in the simplest causal network**

Speaker

Pedro Lauand

16:10 - 16:35

Limitations of causal models of the triangle network, in the symmetric subspace and beyond

Speaker

Tamás Kriváchy

4:35 PM