



## Physical Sciences Seminar

# Virtual Physics Talk with Giulia Semeghini

**Giulia Semeghini (Harvard University)**

**Host: Maksym Serbyn**

### **Probing Topological Spin Liquids on a Programmable Quantum Simulator**

Quantum phases with topological order, such as quantum spin liquids, have been the focus of explorations for several decades. Such phases can be potentially exploited for the realization of robust quantum computation, as exemplified by the paradigmatic toric code model. In this talk, I will show how a programmable quantum simulator based on Rydberg atom arrays can be used to realize and probe quantum spin liquid states. Our observations open the door to the controlled experimental exploration of topological quantum matter, and could enable the investigation of new methods for topologically protected quantum information processing.

Join Zoom Meeting

<https://istaustria.zoom.us/j/94990101885?pwd=RzRXU0hXcWFzQmVqU2xaNW1pYUIhUT09>

Meeting ID: 949 9010 1885

Passcode: 761933

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**Friday, May 21, 2021 03:00pm - 04:00pm**

IST Austria Campus via Zoom



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.