

THE SIAM STUDENT CHAPTER OF CITY TECH PRESENTS A TALK  
BY

**Dr. Karim Benakli**

On November 19<sup>th</sup>, 2021 Virtually via Zoom FROM 10:00 AM-11:00 AM.

Meeting ID: 586 526 2264 and Passcode: SIAM2021

The talk is on

“Some Challenges of Causality”

I will start by introducing the principle of causality in Einstein theories of relativity. It states that we cannot send messages back in time; we cannot be informed of our future. This implies in particular that all elementary particles, since they can play the role of messengers, cannot travel faster than light. But, for a class of particles that I will define, physicists still struggle to find consistent equations of motion that do not lead to a faster than light propagation. We will give an overview of this longstanding challenge and present attempts to solve it.

All are welcome!

This talk will be of interest to Applied Mathematicians, Physicists and STEM enthusiasts.



Karim Benakli is Director of Research at the French National Center of Scientific Research (CNRS) and he works at Sorbonne University in Paris, France. He holds a PhD from Paris XI University in Theoretical Physics, prepared at École Polytechnique. His interests are in aspects of quantum gravity (string theory) and investigations of the possible existence of new symmetries governing the laws of our Universe at very short scales.