

# Hello!



université  
PARIS-SACLAY

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Journée des nouveaux  
Entrants du Pôle Théorie

Orsay  
March 27th, 2024

# This is me:

**Name:** Jacopo  
*pronounced làcopo*

**Surname:** Mazza

**Age:** 29...ish

**Nationality:** Italian

**Favourite food:** guess from  
the above



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not lipstick  
(chocolate ice-cream)

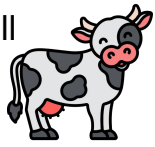


IJCLab  
postdoc



Munich  
Erasmus+  
LMU

Very small  
town  
birth



Pisa  
BSc+MSc



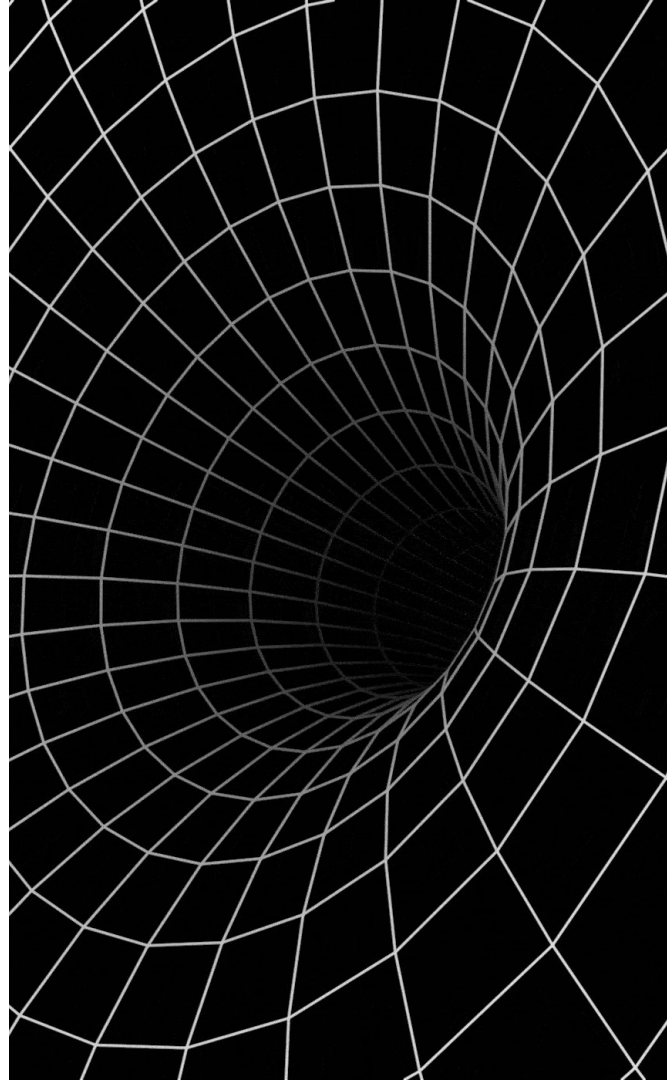
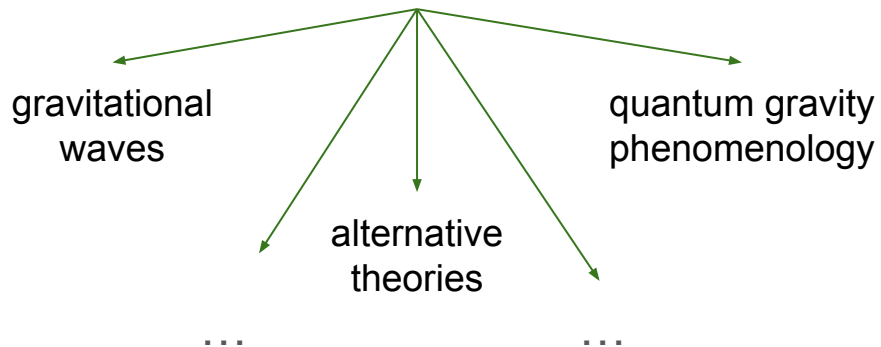
Trieste  
PhD  
SISSA



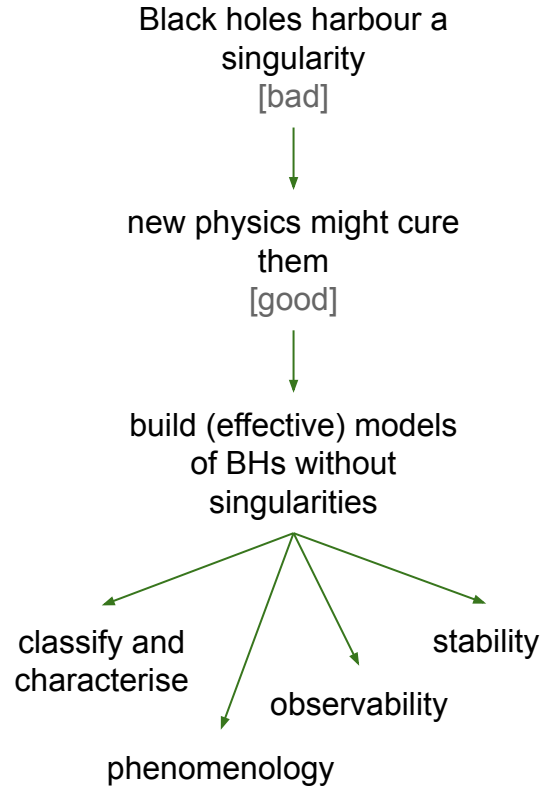
My main interest:  
**gravity**

( mostly classical and  
semiclassical )

black holes



## Regular Black Holes

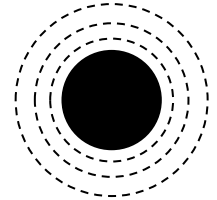


In practice, models are metrics describing:

- BHs with multiple horizons and regular core, or
- wormholes

They can be good BH ‘mimicker’:

- similar geodesics
- similar shadows
- ...



## LIV gravity

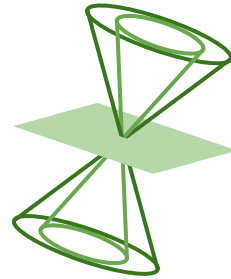
Gravity with broken  
Lorentz invariance

[motivated by quantum  
gravity]

causality different

BHs exist (!)  
but how are they  
different from GR?

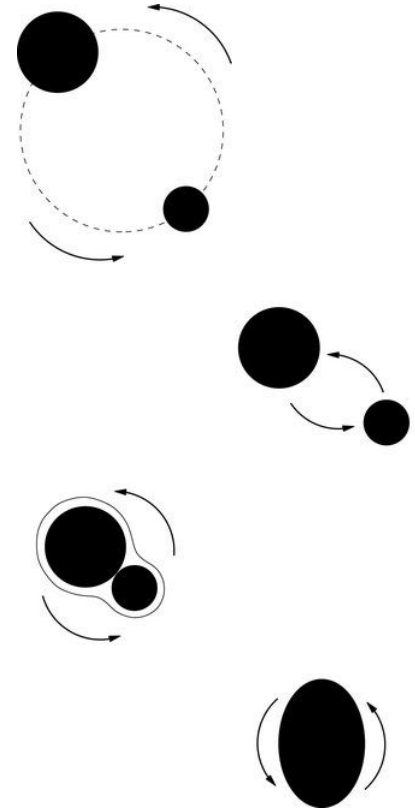
- Einstein–æther theory, Hořava gravity
- Modified dispersion relations
  - metric horizons are permeable
  - universal horizons



# Future...

Keep exploring  
BHs and compact objects  
in alternative theories of  
gravity

Goal:  
get guidance from  
observations on how to go  
beyond GR





**Thanks!**

**Bye!**

**Ciao!**

**Salut!**

