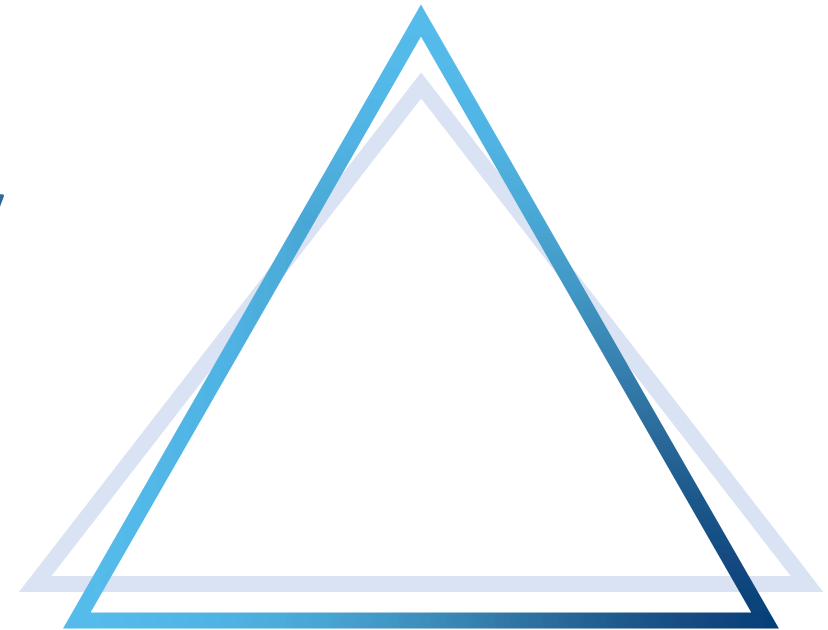


# KU Leuven as ET-PP third party

Jonathan Menu, Institute for Theoretical Physics,  
on behalf of KU Leuven

ET-PP Annual Meeting, Barcelona, June 12-13, 2023



# KU Leuven in numbers



**STAFF**

**13,415**

(KU LEUVEN)

**10,011**

(UNIVERSITY HOSPITALS)



**RESEARCHERS**

**8,189**



**STUDENTS**

**63,207**

**INTERNATIONAL STUDENTS**

**14,155**



**ALUMNI**

**250,000+**



**SPIN-OFFS**

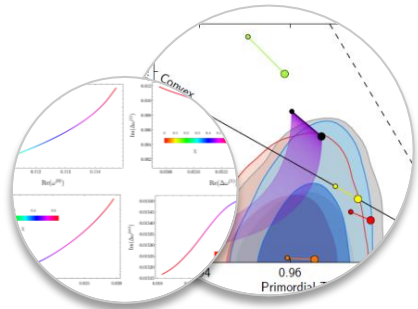
**149**

*\*Last updated: July 2022*

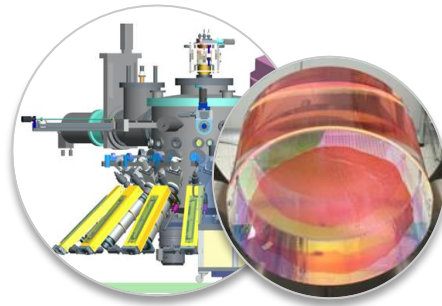
# Gravitational Wave research at KU Leuven

9 departments involved: holistic approach to subject

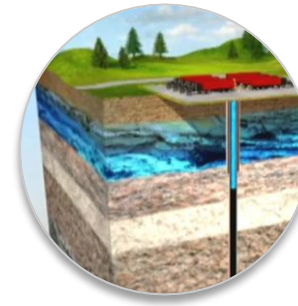
Physics & Astronomy, Mathematics, Chemistry, Earth & Environmental Sciences, Computer Science, Mechanical Engineering, Materials Engineering, Electrical Engineering, Civil Engineering



*Fundamental physics,  
GW astrophysics & cosmology*



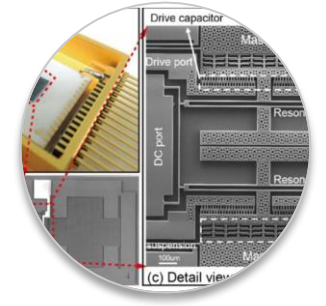
*Crystalline mirror  
coatings*



*Geology & site  
characterization*



*Soil-structure  
interaction*



*Chips for extreme  
environments*

Key contributions to E-TEST, ETpathfinder,  
LISA, LVK, other (inter)national projects

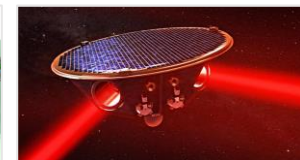
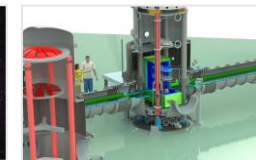


Image credits: Euridice, E-TEST, ETpathfinder, LISA/AEI, LVK

# ET-PP third-party participation KU Leuven

2023-2024: “*Essential Technologies for the Einstein Telescope*”

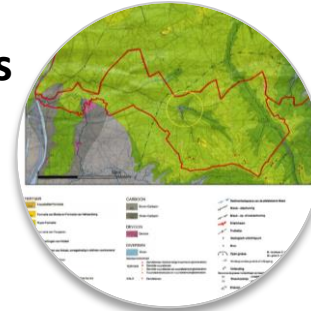
International Research Infrastructure project, funded by Flemish Research Foundation

KU Leuven funding: €3.6M (€6M in total, all 5 Flemish universities)



## Highlight 1: Tunnels, underground constructions

- Characterization vibration sources
- Soil-structure interaction
- Digital twin for structural health monitoring



## Highlight 2: geology

- Focus on Voeren, East-Belgium
- Drilling 2 new boreholes
- Hydrogeological study, subsurface model

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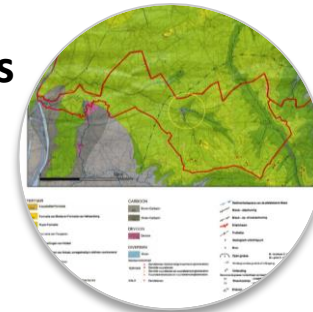
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- Hydrogeological study, subsurface model

**Incentive:** engagement asked by Flemish government, bid EMR region, call for ET-PP 3<sup>rd</sup> parties (May 30)

WP (ET-PP)	Contribution	Details
3: Financial architecture	1 FTE	Financial expert: architecture for construction + operation
4: Site preparation	€600k	Drilling 2 additional boreholes in Flanders (as part of EMR)
5: Engineering dept.	1 FTE	Civil engineer dynamic soil-structure interaction
5: Project office	1 FTE	Project manager: operational management for ET, R&D landscape Belgium