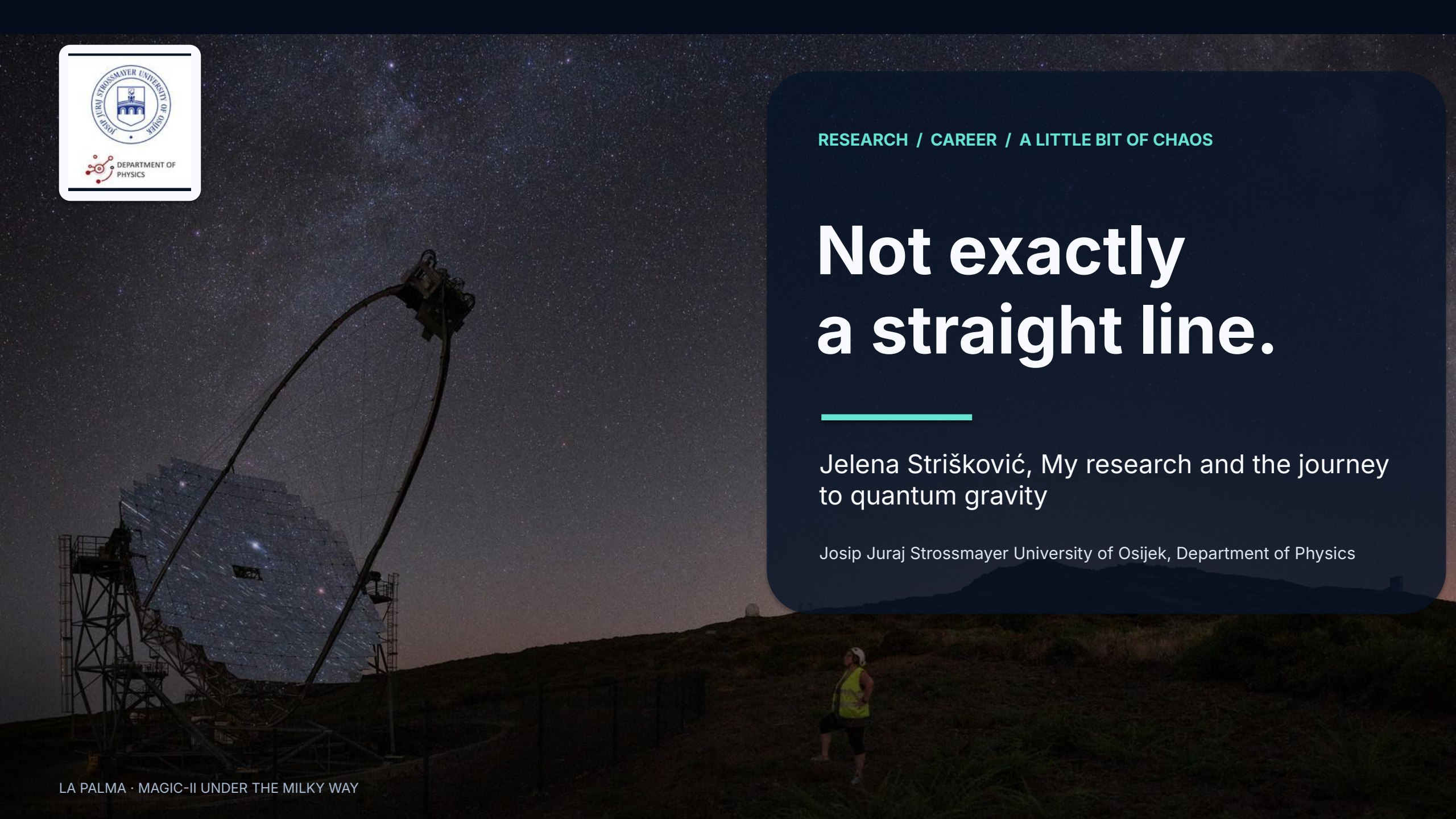


RESEARCH / CAREER / A LITTLE BIT OF CHAOS

Not exactly a straight line.

Jelena Strišković, My research and the journey to quantum gravity

Josip Juraj Strossmayer University of Osijek, Department of Physics

LA PALMA · MAGIC-II UNDER THE MILKY WAY

I took the scenic route.

01

BSc

Physics

02

MSc

Physics & computer science education

03

3 years

Teaching... almost everything

04

Osijek

A position at my alma mater department

Self-doubt took me toward education. Curiosity eventually brought me back to research.

One PhD. Two cities. A lot of kilometres.

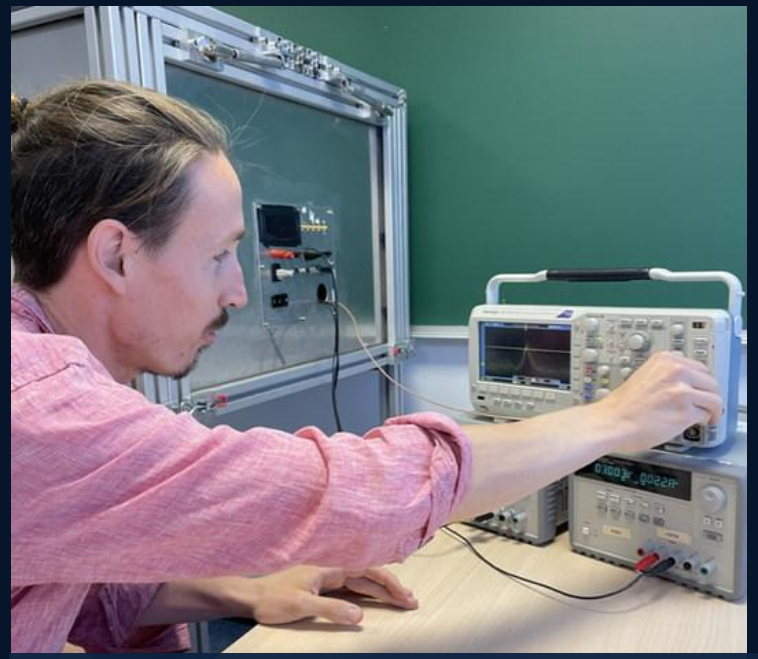
≈500 km

between my workplace and my PhD programme



Commuting between institutions was the first endurance test.

Erasmus did more than fund research.







4 years × 3–4 months

Commissioning LST cameras · Meeting my co-supervisor Daniel Kerszberg · Finding my PhD community

A place to learn what a research life can look like — and meet people like Chai :).

The telescopes became part of my life.



MAGIC-I MAGIC-II LST-1

Shifts, cameras, control rooms… and volcanoes.









2–3 months per year on La Palma

MAGIC LST-1

Another skill I learned: finding money.

6 months

in Croatia

6 months

in Spain

No travel funding from my home department.



COST Actions opened new doors.

Mobility

Short-Term Scientific Missions (STSMs)

New collaborators.
Research visits.
Presenting my work.

BRIDGEQG · CA23130

Bridging high and low energies in search of quantum gravity

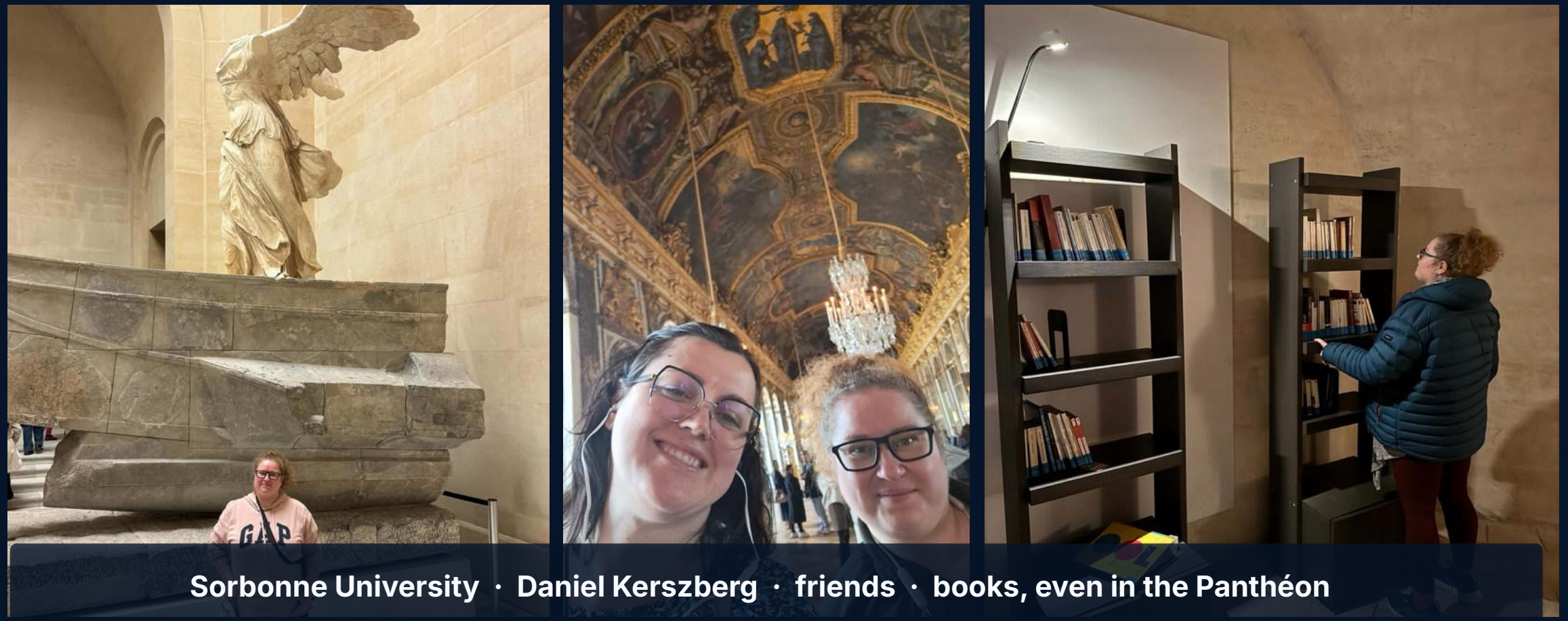
Dissemination & diversity work

FuSe · CA24101

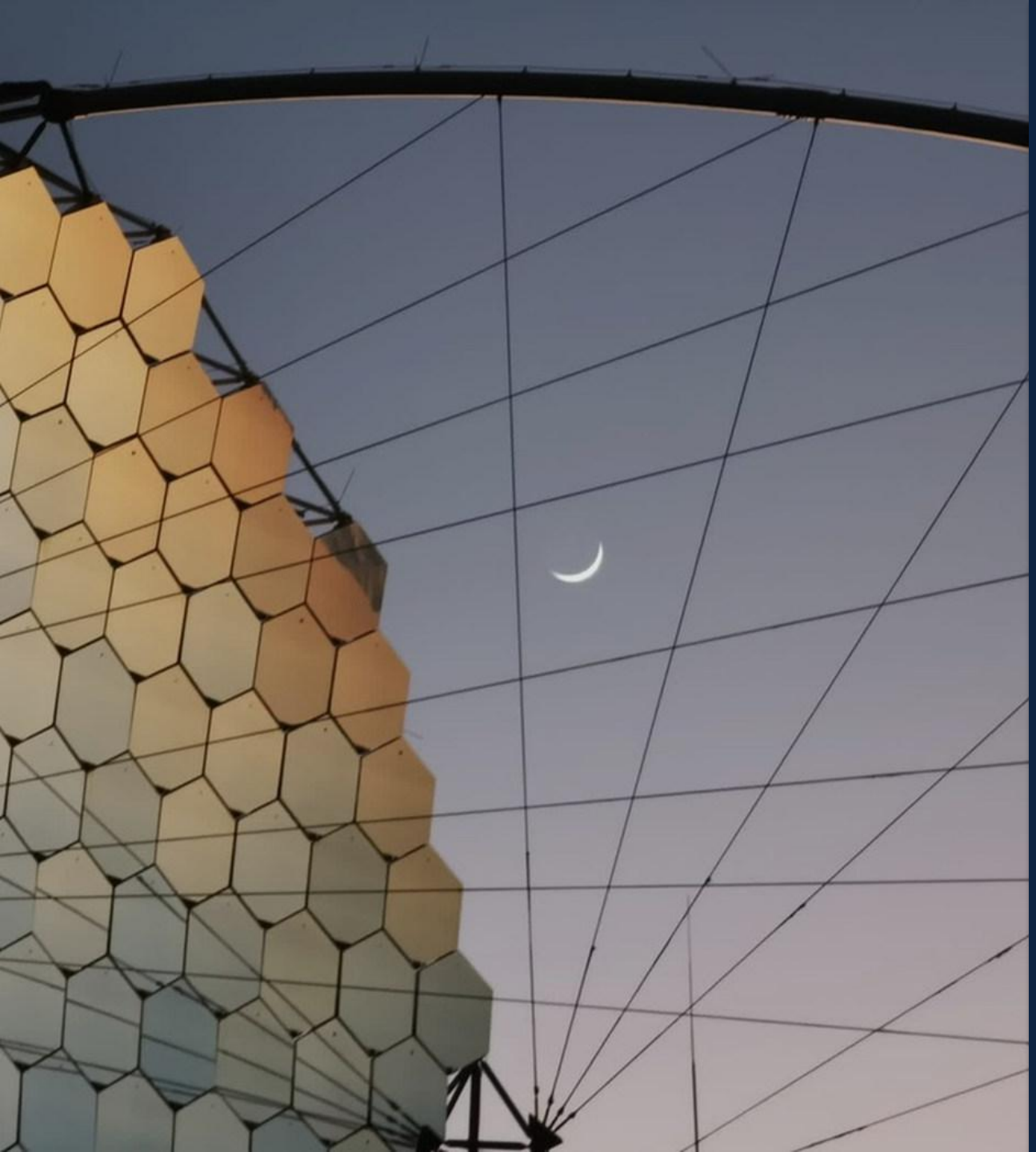
Testing Fundamental Physics with Seismology

WG4 co-leader:
Experiments, observations & instrumentation

Four months of intense writing and some cultural adventures



Sorbonne University · Daniel Kerszberg · friends · books, even in the Panthéon



09 / MY RESEARCH

Very-high-energy gamma rays.

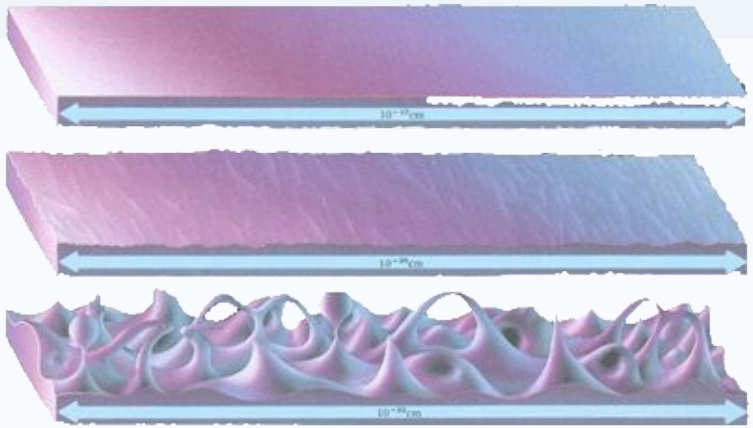
My observational laboratory for fundamental physics.

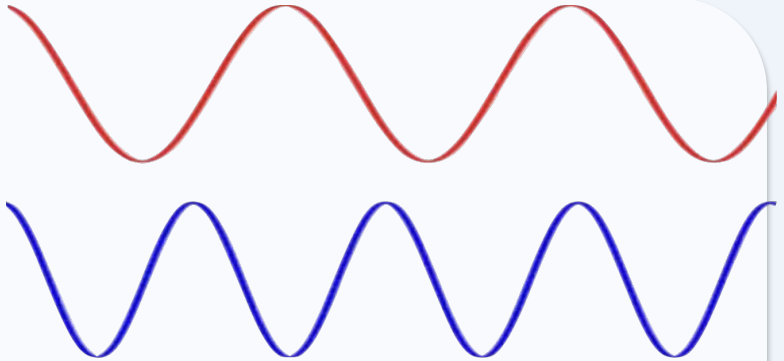
OBSERVATIONS DATA ANALYSIS PHENOMENOLOGY

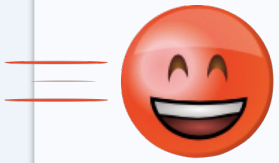
Testing Lorentz invariance violation and deformation

Could high-energy photons arrive at different times?

$$E = \frac{h\nu}{\lambda}$$

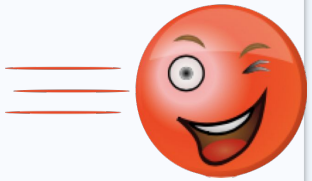


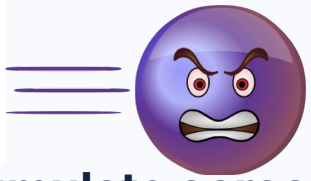




$$v_\gamma = \frac{\partial E}{\partial p} \simeq c\left[1 + \sum_{n=1}^{\infty} S_n \frac{n+1}{2}\left(\frac{E}{E_{\mathrm{QG},n}}\right)^n\right]$$







The hypothesis: tiny energy-dependent propagation effects could accumulate across cosmic distances.



27 JUNE 2025

PhD defended.

Study of active galactic nuclei variability and Lorentz invariance violation with MAGIC and LST-1 telescopes

University of Rijeka · Astroparticle physics

A job application that changed me.

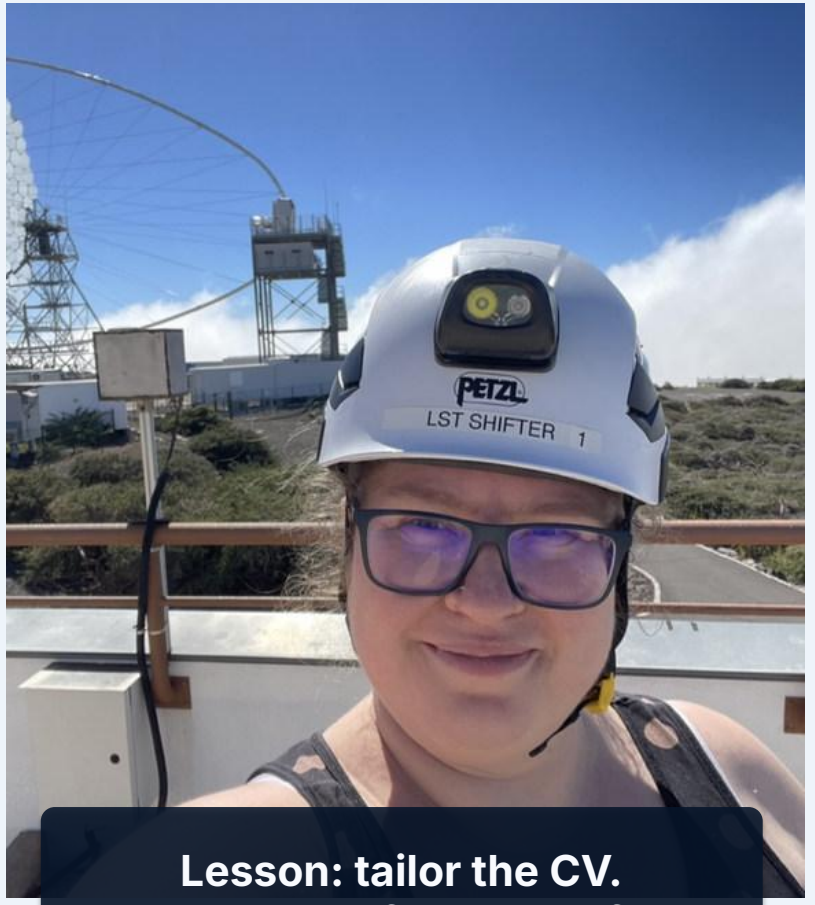
CTAO telescope operator

01 Not invited to the first interview.

02 Politely challenged the assessment.

03 Completed three long interview rounds.

04 Withdrew for family reasons.



**Lesson: tailor the CV.
Advocate for yourself.**

“You were too sciency…”

“…now I’ve completely changed my mind.”

A hiring manager, after the selection process

A scientific CV is not necessarily a technical CV.

Sometimes you need to make others see your experience.

Three postdoc offers. One decision.

3 / 3

postdoctoral offers

Then an opportunity to remain in Croatia.

NOW IN OSIJEK

Assistant Professor

Head of the Division of Theoretical Physics and Computer Science

Still between observations and ideas.

RESEARCH

Lorentz invariance violation & deformation
VHE gamma rays ·
data analysis ·
convener of astroparticle and fundametal physics WG in MAGIC collaboration

TEACHING

Statistics ·
statistical physics
Cosmology ·
astroparticle physics

COMMUNITY

MAGIC · LST ·
Einstein Telescope
BridgeQG · FuSe ·
outreach

The best part of the journey? The people who made it possible and the questions still waiting to be answered.





No one does it alone.