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UNIRI UNIVERSITAS STUDIORUM FLUMINENSIS
UNIVERSITY OF RIBERA CAMPUS



18 TH

PATRAS WORKSHOP ON AXIONS, WIMPS AND WISPS

03-07 JULY 2023
UNIVERSITY OF
RIJEKA, FACULTY
OF PHYSICS
RIJEKA, CROATIA

SCIENTIFIC PROGRAMME

The Physics Case for WIMPs,
Axions, WISPs /// Direct and
Indirect Searches for Dark
Matter and Dark Energy ///
Direct and Indirect Searches
for Axions and WISPs ///
Signals from Astrophysical
Sources /// Review of
Collider Experiments ///
New Theoretical Developments

INTERNATIONAL ORGANIZATION COMMITTEE

Martin Karasz (University of Bielefeld), Giovanni Cattaneo (University and INFN Trieste), Vassilis Aravas (University of Patras), Luca Basile (University of Zurich), Ulrich Bauer (Einstein Institute) and Johannes Gehrke (University Mainz).
Björn Heine (University of Freiburg), Jürgen Juelich (University of Heidelberg), Axel Unterweger (Austria), Andreas Krieger (SUSI), Marc Schäfer (University of Freiburg), Yannick Semetrotta (CERN & WUWT), Jim Al-Khalili (University of Bristol),
University of Bristol, Katharina Strohmaier (University of Bristol).

卷之三十一 人物志上 哲学家、文学家、思想家

Martin Krenn (Chair, University of Klagenfurt) / Giandomenico Belotti (Co-chair, University and INPN Trieste) / Diana Manica (University of Trieste)

**DEADLINE FOR ABSTRACT SUBMISSION AND EARLY BIRD REGISTRATION:
31 APRIL 2023**

AXION
-WIMP2023.
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VERY FIRST PATRAS WORKSHOP

1st Joint ILIAS-CAST-CERN Axion Training

30 Nov 2005, 09:00 → 2 Dec 2005, 12:45 Europe/Zurich
500/1-001 - Main Auditorium (CERN)
Markus Kuster

Description An accompanying presentation in the CERN seminar will be given by Karl van Bibber on Tuesday 29. November 2005

Conference web-page [Axion-Training 2005](#)

WEDNESDAY, 30 NOVEMBER

09:00 → 12:40 Lectures I 500/1-001 - Main Auditorium

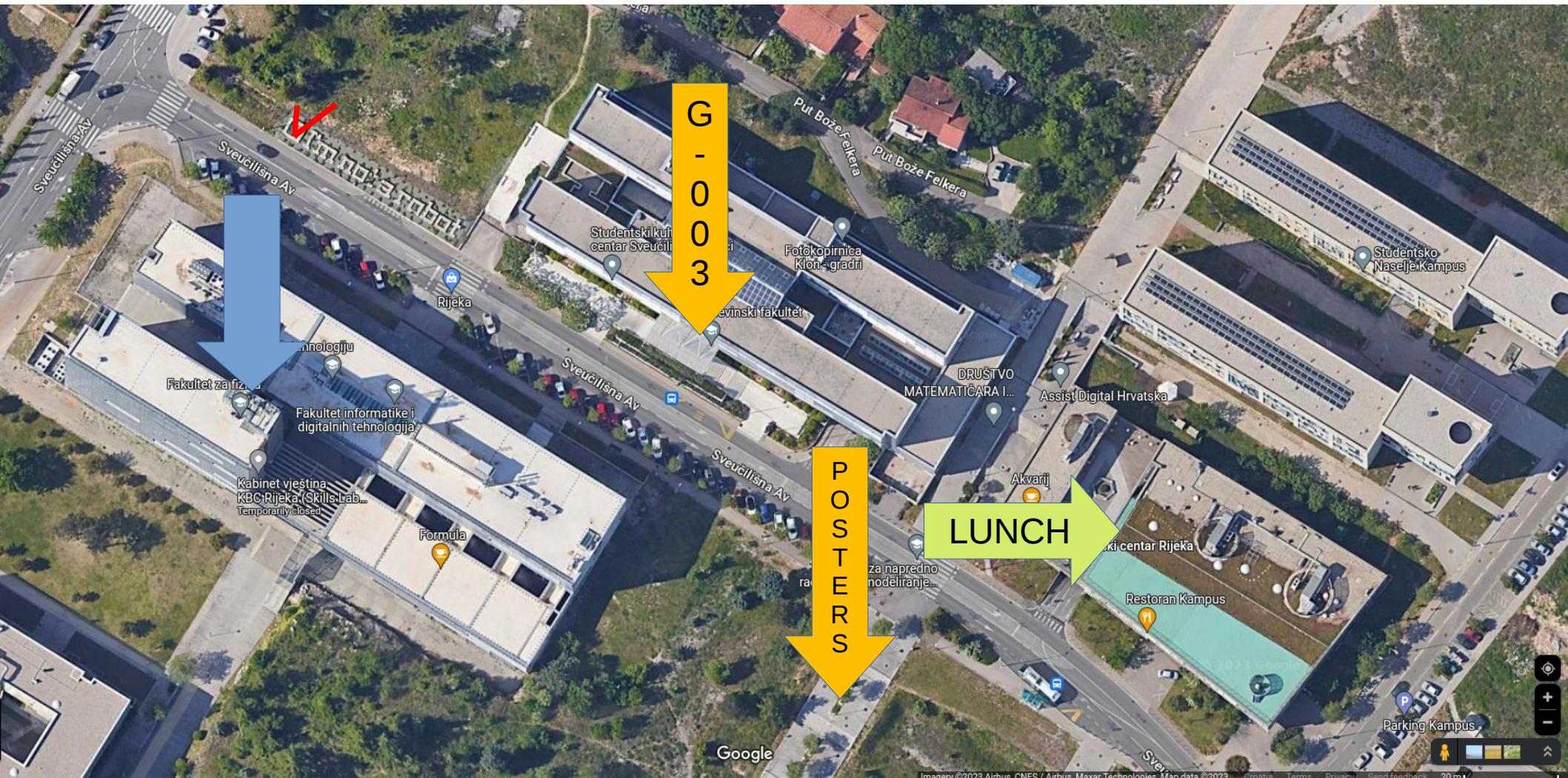
09:00 **Introduction** 10m
Speaker: Konstantin Zioutas (University of Patras)
transparencies Video in CDS

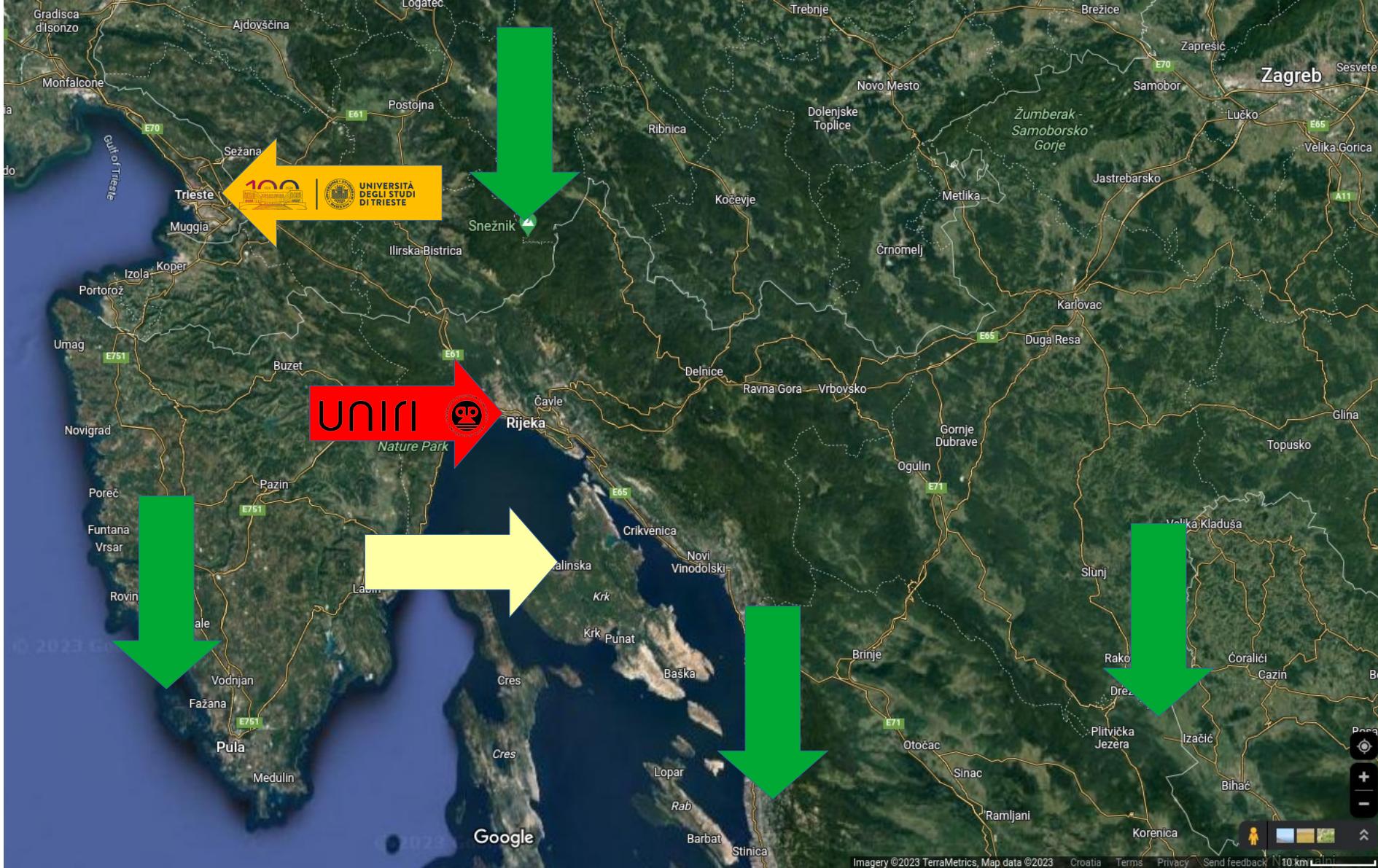
09:10 **The Strong CP Problem and Axions** 1h 30m
Outline of the lecture:

In this lecture I will explain the origin of the Strong CP Problem, which is connected to the non-trivial structure of the vacuum state of the Standard Model. The most natural solution to this problem involves introducing an additional global chiral U(1) symmetry in the theory. Because this symmetry is both spontaneously broken and anomalous, this solution necessitates the presence of a very light, very weakly coupled boson, known as the axion.

Physical properties of axions, including their mixing with pions and etas and their coupling to two-photons are described. Using these results, it is possible to rule out weak-scale axions. However, invisible axions models are still viable. Some of the properties of these latter models will be also discussed.
Speaker: Roberto Peccei (University of California)
transparencies

10:40 Break 30m









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of YUFE.

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**50 years of the University & 390 years
of tradition of higher education in
Rijeka**

True ignorance is not the absence of knowledge, but the
refusal to acquire it. Karl Popper



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PROGRAM
—PROGRAMME
2023



Chat now

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OPENNESS/OTVORENOST

18th Patras Workshop on Axions, WIMPs and WISPs

Monday, 3 July 2023

Monday Session 1 - G-003 (09:00 - 10:45)

| time | title | presenter |
|-------|--|-----------------|
| 09:00 | Welcome | |
| 09:30 | Axion Searches | SIKIVIE, Pierre |
| 10:15 | Recent Progress on CAPP's Main eXperiment (CAPP-MAX) | CHUNG, Woohyun |

Monday Session 2 - G-003 (11:05 - 12:35)

| time | title | presenter |
|-------|---|------------------|
| 11:05 | First Results from the LUX-ZEPLIN Dark Matter Experiment | DOBSON, Jim |
| 11:35 | Searches of Axions/ALPS with (Baby)JAXO | SCHNEEKLOTH, Uwe |
| 11:55 | Search for KSVZ axion dark matter around $24.5 \text{ }\mu\text{m}^2/\text{eV}$ | LEE, Soohyung |
| 12:15 | Searches for daily modulations with the CAST-CAPP detector | ÖZBOZDUMAN, Kaan |



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Monday Session 3 - G-003 (14:00 - 16:00)

| time | title | presenter |
|-------|--|-------------------|
| 14:00 | Novel designs and schemes for high-mass axion haloscopes | Dr JEONG, Junu |
| 14:20 | From Black Holes into the Voids: What TeV Astrophysics Tells Us about Axion-like Particles | GHOSH, Oindrila |
| 14:40 | Astrophysical Searches for the String Axiverse | MAXWELL, James |
| 15:00 | BRASS-p Search for Exotic WISPy Phenomenon | NGUYEN, Le Hoang |
| 15:20 | Detecting axions from SNe using underground neutrino detectors. | LELLA, Alessandro |
| 15:40 | Cosmic Last Scattering Surface as an Axion Dark Matter Detector | TRIVEDI, Pranjal |

Monday Session 4 - G-003 (16:20 - 17:20)

| time | title | presenter |
|-------|--|----------------------|
| 16:20 | Probing the blue axion with cosmic optical background anisotropies | Dr CARENZA, Pierluca |
| 16:40 | Discovering the QCD Axion with Polarization Haloscopes | ZHOU, Kevin |
| 17:00 | WIMP cross-section limits from radio observations of dwarf spheroidal galaxies | GAJOVIĆ, Lovorka |

17:20 → Poster session

Experimental Tests of the "Invisible" Axion

P. Sikivie

Phys. Rev. Lett. **51**, 1415 – Published 17 October 1983; Erratum Phys. Rev. Lett. **52**, 695 (1984)



Article

References

Citing Articles (1,076)

PDF

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ABSTRACT

Experiments are proposed which address the question of the existence of the "invisible" axion for the whole allowed range of the axion decay constant. These experiments exploit the coupling of the axion to the electromagnetic field, axion emission by the sun, and/or the cosmological abundance and presumed clustering of axions in the halo of our galaxy.

Received 13 July 1983

DOI: <https://doi.org/10.1103/PhysRevLett.51.1415>

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