

Particle Physics in the Early Universe

14-18 September 2026

Paris & Orsay



Particle Physics in the Early Universe

14–18 sept. 2026

Fuseau horaire Europe/Paris



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The International conference “Particle Physics in the Early Universe” is taking place 14–18 September 2026 in Paris and Orsay.

The conference is co-organized by the **Polish Academy of Sciences Scientific Center in Paris**, the **Institute for Advanced Studies of the University of Warsaw**, and **IJCLab Orsay**. The first day of the conference (Sep 14) will take place in the auditorium Joliot Curie, building 100 at IJCLab in Orsay. The sessions of September 15-18 will be held at the Polish Academy of Sciences Scientific Center, located in the elegant 16th arrondissement of Paris.

The scientific program will explore the interplay between elementary particle physics and early-Universe cosmology, covering topics such as cosmological inflation, dark matter, dark energy, baryogenesis and leptogenesis, phase transitions in the early Universe, and their potential observational signatures, particularly gravitational waves. A central focus will be the cosmological implications of theories beyond the Standard Model and their possible experimental tests. Contributions will be published in a special issue of Acta Physica Polonica B. There is no conference fee for invited participants.

université PARIS-SACLAY

*Science for
a brighter world*

Research
Education
Innovation
Talent
Impact for society

*A leading universal university
At the heart of science and innovation, south of Paris*



Paris

Université
Paris-Saclay

*South of Paris,
a global hub for science
and innovation*

A legacy of great scientists



Marie Curie
Nobel Prize in Physics 1903
Nobel Prize in Chemistry 1911



Pierre Curie
Nobel Prize in Physics 1903

*A scientific
heritage
that inspires
today's
generations*



Frédéric Joliot-Curie
Nobel Prize in Chemistry 1935



Irène Joliot-Curie
Nobel Prize in Chemistry 1935

Key figures (2024)



≈ **48,000**
students



≈ **4,800**
PhD students



≈ **8,100**
academic, research
and technical staff
(≈ 4,300 researchers
and teachers-researchers)



≈ **275**
laboratories
and research units



≈ **10,000**
scientific publications
per year

*Training
talents
to meet
tomorrow's
challenges*

International recognition



Shanghai Ranking 2024
Academic Ranking of World Universities

15th
in the world
(all fields)

2nd in Mathematics
7th in Physics

Nobel Prizes & Fields Medals



7
Nobel Prizes
(affiliated scientists)



2
Fields Medals
(affiliated mathematicians)

*From
fundamental research
to real-world solutions*

A multidisciplinary university



Physics
From the infinitesimal
to the cosmos



Life sciences
For healthier lives



Chemistry
For a sustainable world



Mathematics
Data and AI
for tomorrow



Engineering
Innovations
for society

An exceptional ecosystem



Research infrastructures
(SOLEIL, synchrotrons, TGIR, ...)



Cutting-edge facilities
and technology platforms



A green and open campus
at the service of science
and society



*An exceptional
living and research
environment*



Together for a more open, sustainable and inclusive world

*Paris-Saclay,
ideas for a better tomorrow*



Irène and Frédéric Joliot-Curie
Orsay, 1956

"A deeper understanding of the nucleus opens the way to a better understanding of the Universe."
I. Joliot-Curie

1956

The birth of a laboratory at Orsay

In 1956, Irène Joliot-Curie initiated the creation of a nuclear physics center in Orsay. After her untimely death that year, Frédéric Joliot-Curie pursued the project and supervised the construction of the first buildings. The synchrocyclotron was commissioned in 1958, marking the beginning of a major scientific adventure.

Orsay, 1956-1958
Construction of the laboratory



iJC Lab
Irène Joliot-Curie
Laboratory of Physics
of the Two Infinities

Matter
Energy
Space
Time

From the nucleus
to the infinities ...

Two founding laboratories at Orsay



Institute of Nuclear
Physics of Orsay

1956

*The IPN
at the heart of
nuclear physics*



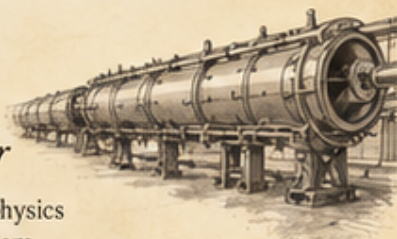
- Nuclear structure
- Hadron physics
- Astroparticle physics
- Instrumentation



Linear Accelerator
Laboratory of Orsay

1956-1958

*The LAL
and the electron
linear accelerator*



- Particle physics
- Accelerators
- Detectors
- Instrumentation

A convergence for new horizons



January 1, 2020

iJC Lab
Irène Joliot-Curie

*A single laboratory
to explore
matter, energy,
space and time.*

Key figures (2024)

≈ 720
people
in total

≈ 260
researchers
and faculty members

≈ 230
engineers, technicians
and administrative staff

≈ 230
PhD students
and post-doctoral researchers

> 600
scientific publications
per year

Numerous
international collaborations

Partner of major
research infrastructures
and experiments

Our research fields



Particle physics
and accelerators



Astroparticle physics
and cosmology



Nuclear physics



Instrumentation
and advanced technologies



*A unique place
in the service
of science
and society.*



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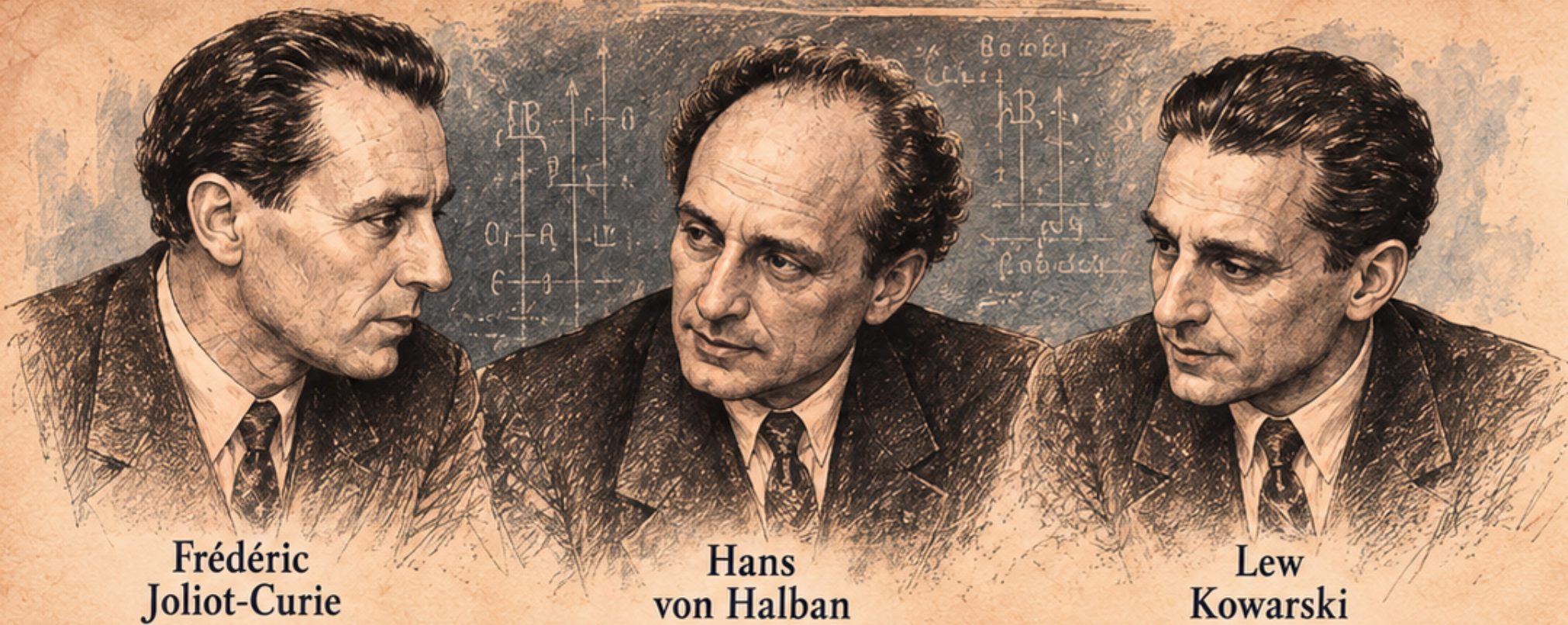


Université
Paris Cité

From the nucleus to the infinities

The Orsay campus, past and present





Frédéric
Joliot-Curie

Hans
von Halban

Lew
Kowarski

Science in times of crisis

Working together in 1939, Joliot-Curie, von Halban and Kowarski explored the possibility of a nuclear chain reaction and the crucial role of heavy water.



1940

The heavy water exodus



June 17, 1940

von Halban and Kowarski leave Bordeaux with 26 drums of heavy water and scientific documents, aboard the Broompark, bound for England.



To England

1956

A new laboratory for a new era



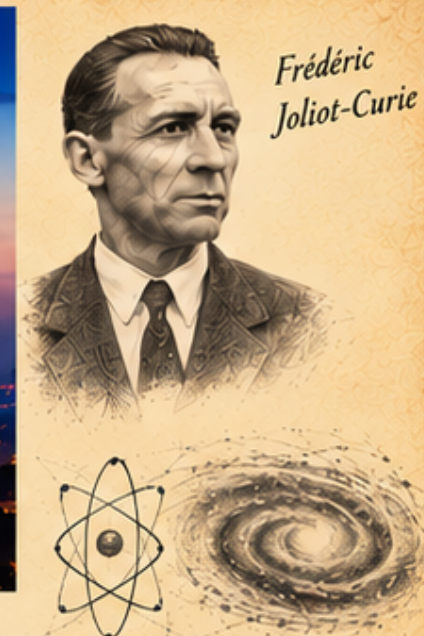
Hans von Halban
First director of the LAL (1956)



Particle Physics in the Early Universe

14-18 September 2026

Paris & Orsay



A French-Polish workshop at the interface of cosmology, particle physics and astrophysics

Bringing together leading researchers to discuss the latest developments,
from theoretical ideas to observational probes.

Scientific topics



Inflation and
the primordial Universe



Reheating and
particle production



Cosmic microwave
background



Dark matter and
structure formation



Observations and
future surveys



14 – 18 September 2026



Paris & Orsay

Monday: IJCLab (Auditorium Curie, Orsay)

Tuesday–Friday: Académie des sciences de Pologne (Paris)



Renowned speakers from France, Poland and beyond
Accessible to a broad audience



A programme connecting theory, observations
and future projects



France – Poland A strong scientific partnership

- ▶ A shared history, from Marie Curie to today
- ▶ Joint research in nuclear and particle physics
- ▶ Training new generations
- ▶ Building together a brighter future



Organised by



Irène Joliot-Curie
Laboratoire de Physique des 2 Infinis



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In collaboration with

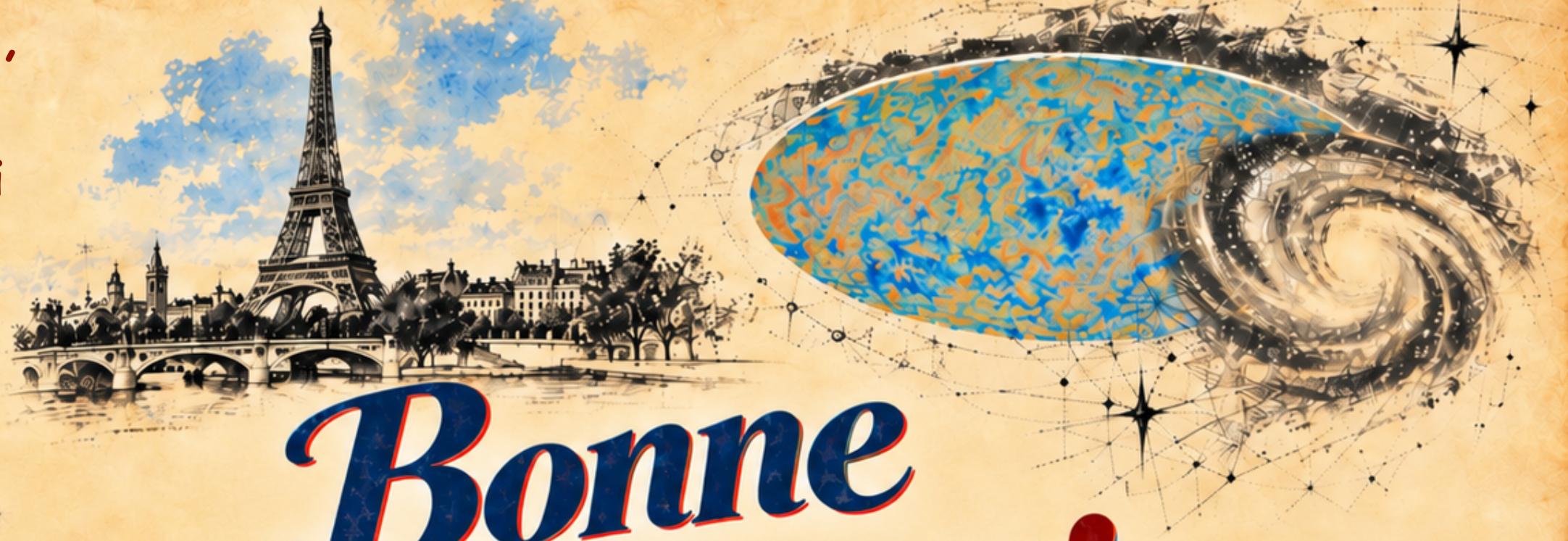
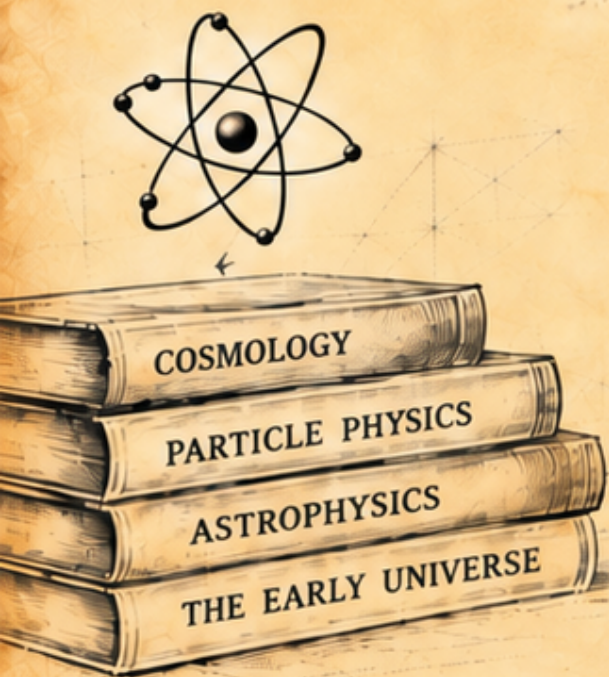


Polish Embassy in Paris
Cocktail – Wednesday evening



Piccolino Paris
Dinner – Thursday evening

Adam Falkowski,
Zygmunt Lalak,
Stefan Pokorski
& myself
wish you une...



*Bonne
conférence!*

*Udanej
konferencji!*

