

# ILANCE Scientific Program

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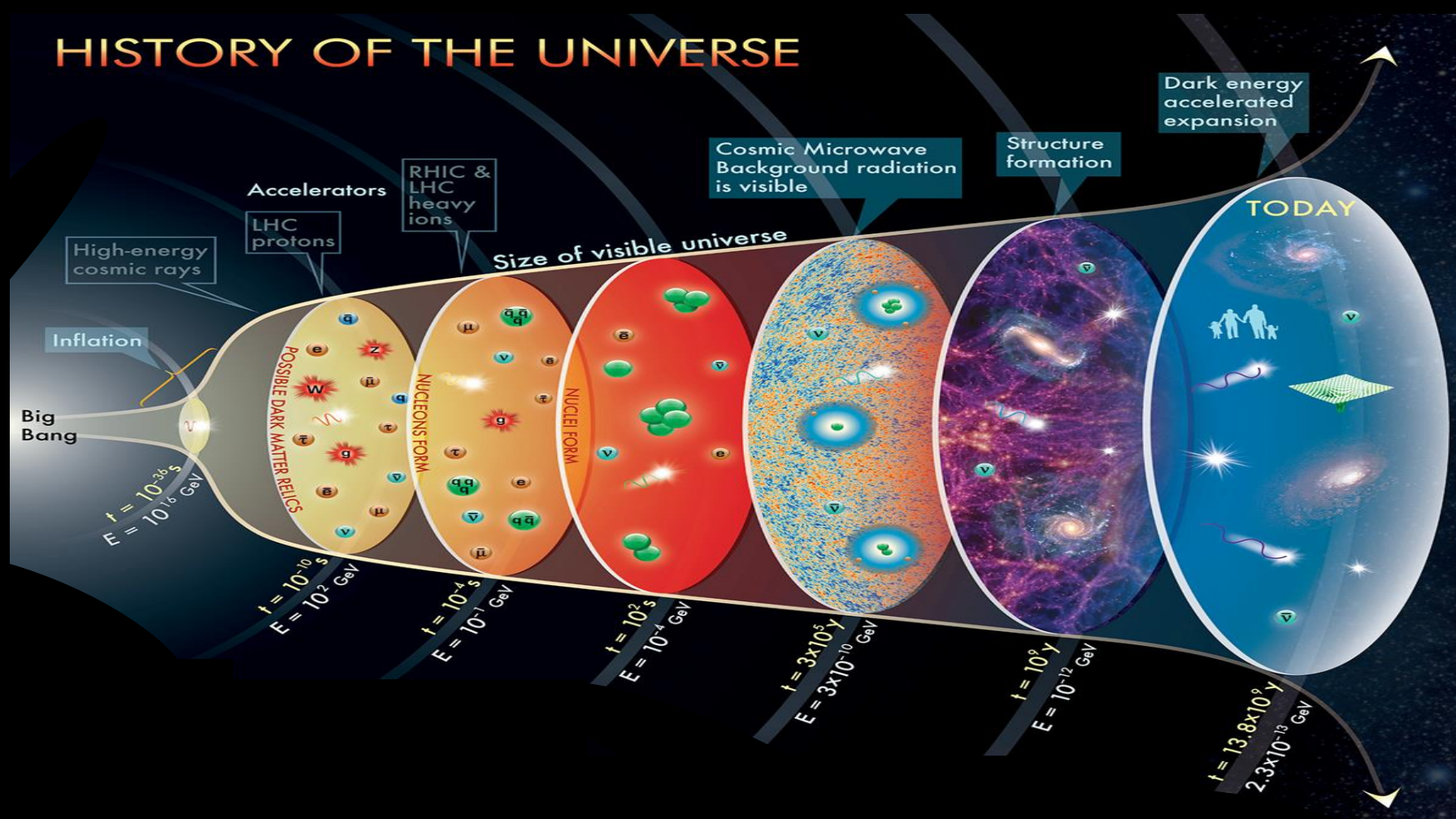
International Laboratory for **A**strophysics,  
**N**eutrino and **C**osmology Experiments

The creation of ILANCE between the University of Tokyo and the National Institute of Nuclear physics and Particle physics (IN2P3), a division of CNRS, will perfectly coincide with [the start of new research programs in Japan and around the world.](#)

Over the past decades, the teams of this new laboratory have been actively involved in very successful international programs including France and Japan.

The scientific focus of the ILANCE is [Particle Physics, Astrophysics, Astro-particle Physics, Cosmology](#) and associated scientific research.

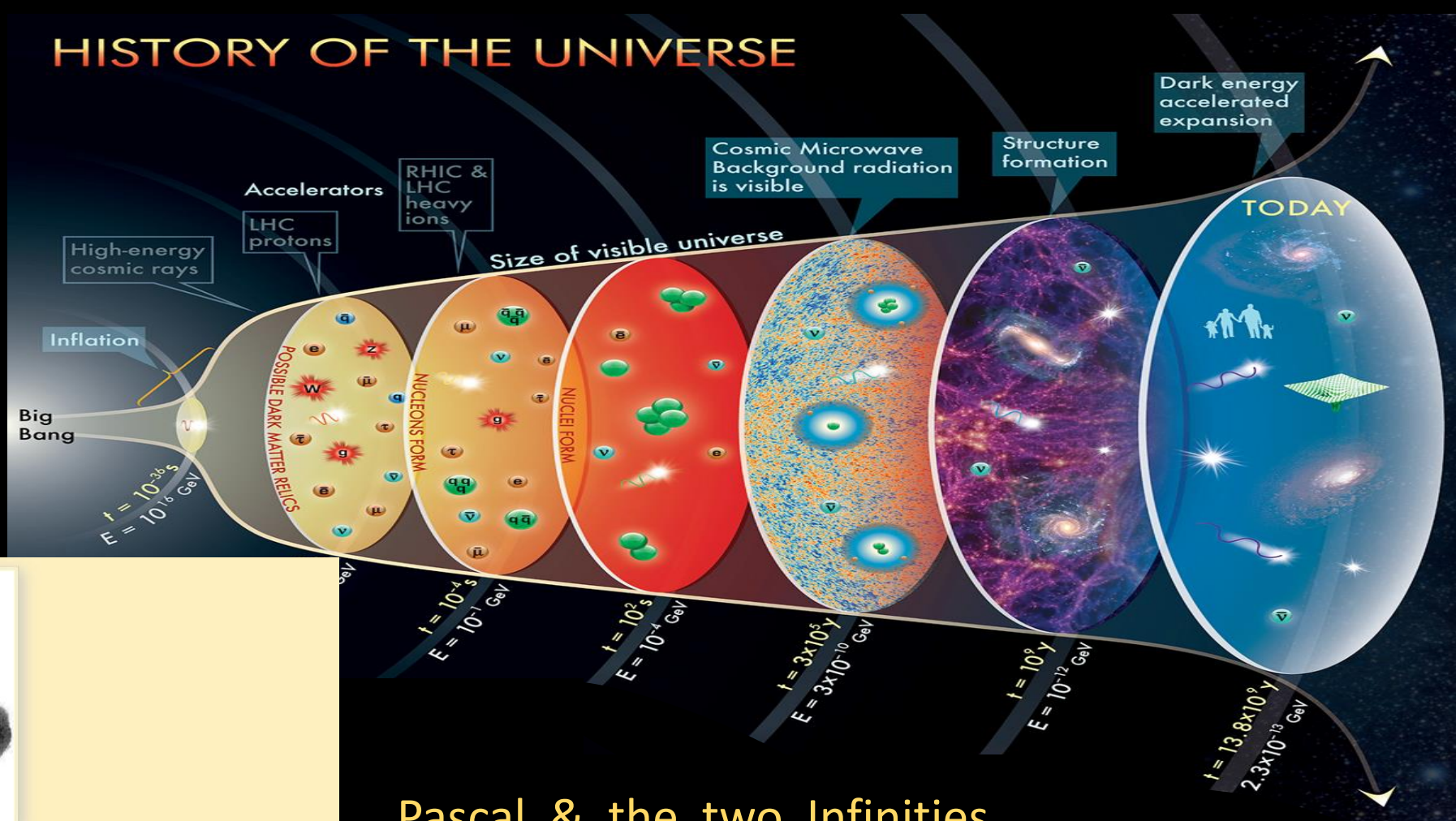
# HISTORY OF THE UNIVERSE



In search of new discoveries, the field of elementary particles, cosmology and astrophysics explore what the universe is made of and what are its fundamental laws at the smallest and largest scales

The history of our universe has been dominated by the intimate relationship between these areas since its beginnings just under 15 billion years ago

# HISTORY OF THE UNIVERSE



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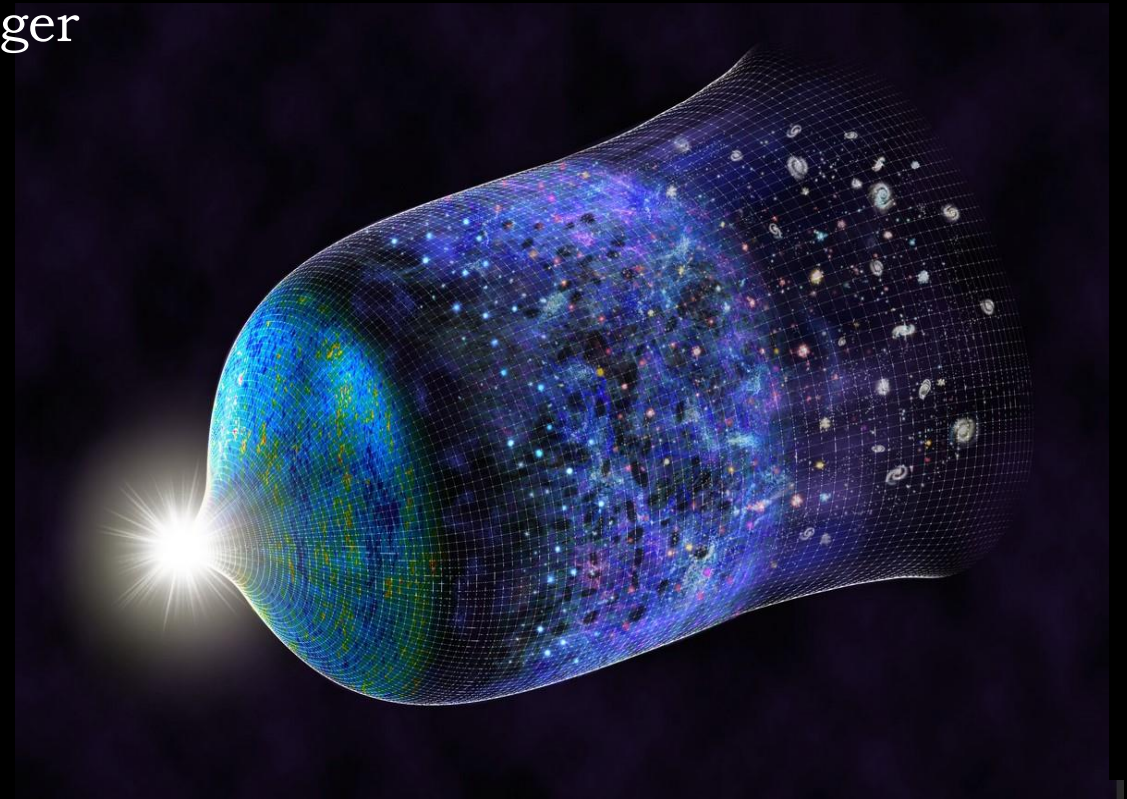
– Blaise Pascal

In his writings about the human condition, *Les Pensées* or *Thoughts*, French scientist, inventor and philosopher Blaise Pascal (1623-1662), positioned mankind between the infinitely large and the infinitely small (*Pensées*, 199-72\*).

## Pascal & the two Infinities

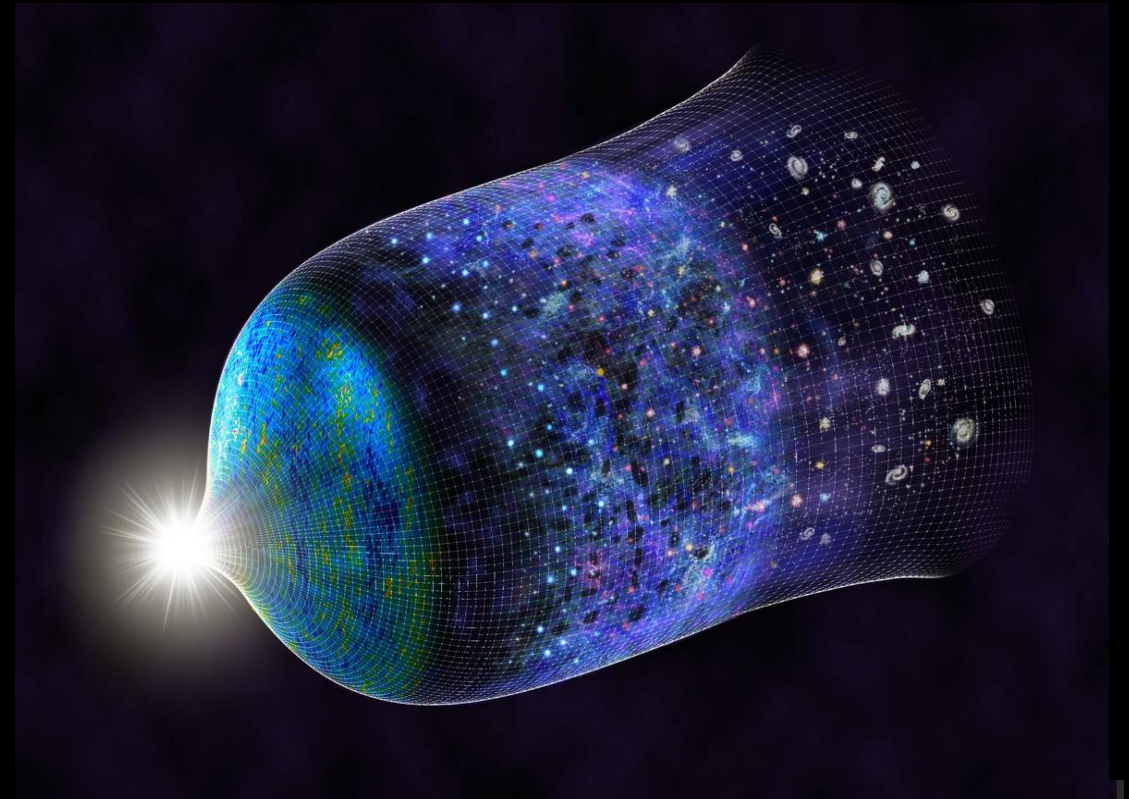
# So far, Five primary fields of research and associated PIs have been identified

- 1) Neutrino, Particle and Cosmic Messenger  
S. Shiozawa & M. Gonin
- 2) The Primordial Universe  
J. Errard & T. Matsumura
- 3) The Dark Universe  
N. Regnault & N. Yasuda
- 4) Gravitational Waves  
M. Barsuglia & M. Ando
- 5) Particle Physics and Detectors  
T. Berger Hryn'ova & T. Mori

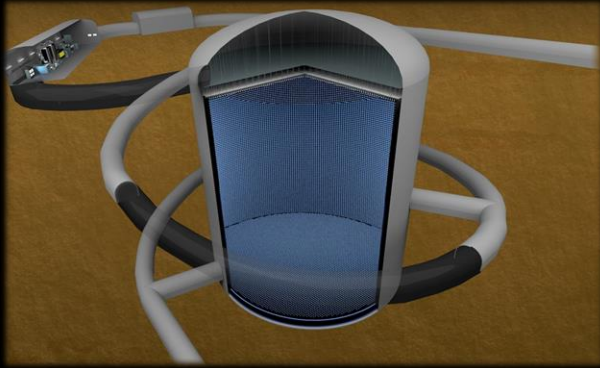


# So far, Five leading projects have been identified

- 1) Neutrino, Particle and Cosmic Messenger  
HYPER-KAMIOKANDE
- 2) The Primordial Universe  
LiteBIRD
- 3) The Dark Universe  
SUBARU
- 4) Gravitational Waves  
KAGRA-VIRGO-LIGO
- 5) Particle Physics and Detectors  
ILC & ATLAS

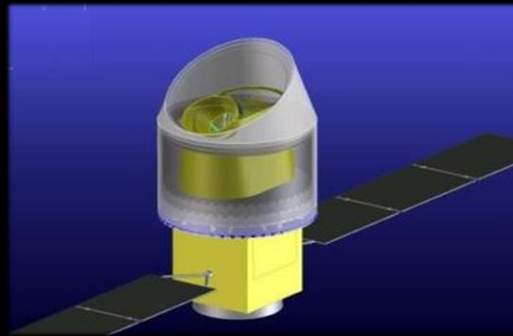


This list does not of course exclude many additional projects !



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Scientific Program

Extraordinary potential for  
first-class discoveries !

