IRL PPC
Particle Physics & Cosmology International Research Laboratory

End-of-Year 2025 Newsletter

Edito

Dear colleagues,

On November 19th, the IRL Particle Physics & Cosmology (PPC) took a historic step forward with the official signing of our trilateral agreement between CNRS, the University of Chicago, and Université Paris Cité. This milestone isn't just ink on paper—it's a commitment to deepen the transatlantic collaborations that drive discovery in particle physics, cosmology, and beyond.

This issue also highlights the concrete scientific dynamics already underway, from the launch of the new seed program on superconducting RF cavities to the many seminars and visits that continue to animate our community.

Looking ahead, several funding and mobility opportunities remain open for the coming year, including the FACCTS and IIRP Faculty Grants, as well as the Chateaubriand fellowships. I encourage you to explore these programs and make use of the collaborative tools they offer.

Thank you all for your continued engagement and contributions. I wish you a restful end of the year and look forward to our shared projects in the months ahead.

Warm regards,

Cédric Cerna
Director, IRL PPC

Ongoing and Forthcoming Calls

Research Partnerships

- **France and Chicago Collaborating in The Sciences (FACCTS)**
  - The FACCTS program provides seed funding for new and potentially fruitful project-based collaborations.
  - Funding up to $15,000 per year for one or two years to support collaborations between PIs at UChicago (including Argonne and Fermilab) and colleagues based in France.
  - Applications due February 3, 2026
  - Website : https://fcc.uchicago.edu/faccts/
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- **UChicago International Institute of Research in Paris (IIRP) Grants**
  - Funding between $15,000 and $30,000 for projects last one or two years for collaborative initiatives substantially based at the John W. Boyer Center in Paris.
  - Applications due February 27, 2026
  - Website : https://centerinparis.uchicago.edu/research-institute/iirp-faculty-grants

Students and Scientists Mobility

- **Châteaubriand Fellowship**
  - For PhD students in STEM or SHS enrolled in a US university to conduct part of their research in France in a structure of excellence
  - 4 to 9 months - between September and April of the following year
  - Travel & Living expenses in France and Health Insurance
  - Annual call for applications from October 8th 2025 to January 25th 2026
  - Website: https://www.chateaubriand-fellowship.org

Visitor

Fall 2025: Laura Zambelli (LAPP, CNRS – Université Savoie Mont Blanc)



Laura Zambelli is a CNRS researcher at the Laboratoire d'Annecy de Physique des Particules (LAPP, CNRS – Université Savoie Mont Blanc), specializing in long-baseline neutrino oscillation experiments. She currently serves as **ProtoDUNE analysis convener** in the **DUNE collaboration**.

- Laura came to join the neutrino group at the Enrico Fermi Institute from October 17th to November 20th.
- She'll return to Chicago in Spring thanks to a Fermilab Neutrino Physics Center fellowship.

Seminars

Antoine Kouchner (APC Laboratory, CNRS – Université Paris Cité)



November 17, Enrico Fermi Institute

Fishing for Neutrinos in the Mediterranean Sea

Akira Myiazaki (IJCLab Laboratory, CNRS – Université Paris-Saclay)



- December 8, Enrico Fermi Institute
  Detection of dark matter axions at high frequency: journey from classical microwaves to quantized photons

- December 9, Argonne National Laboratory

- December 10, Fermilab
  New research opportunities in nonequilibrium superconducting cavities: theory and experiments

Carlos Redondo Herrero (IJCLab Laboratory, CNRS – Université Paris Saclay)

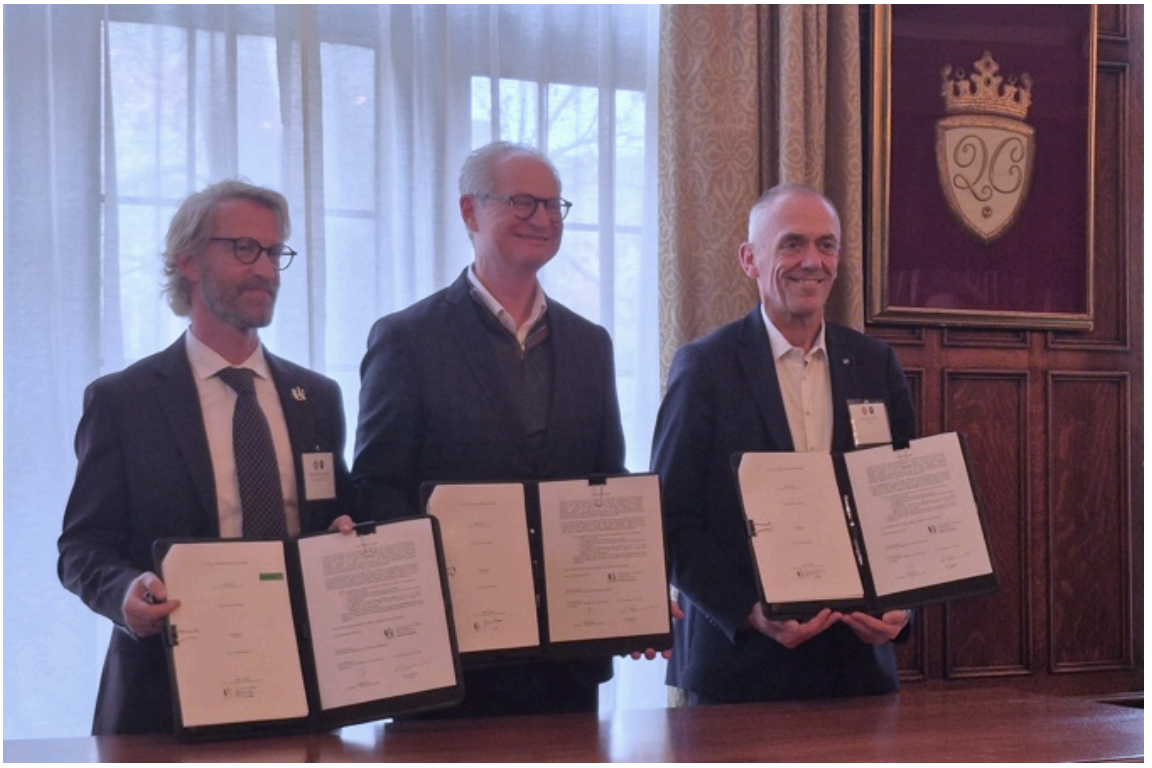


- December 9, Argonne National Laboratory

- December 10, Fermilab
  New insights in the multilayer theory of superconducting RF

Events

Official Signing of the IRL Particle Physics & Cosmology Agreement



On November 19th, the partnership agreement establishing the **International Research Laboratory Particle Physics & Cosmology (IRL PPC)** was officially signed by the **CNRS**, the **University of Chicago**, and **Université Paris Cité**. This signature marks a major milestone in the development of long-term scientific collaboration between the three institutions.

The event also benefited from the strong engagement of local partners, including the **Consulate General of France in Chicago** and the **France Chicago Center**, whose continued support of scientific exchanges has contributed to making this agreement possible.

With the agreement now formally in place, the IRL PPC looks forward to deepening and expanding collaborations between French and Chicago based teams in particle physics and cosmology in the years to come.

Workshop on SRF cavities (December 8th to 11th, 2025)



This workshop marks the launch of a new seed program jointly supported by CNRS and UChicago—one of the very first initiatives to receive both a **CNRS–UChicago Joint PhD Grant** and a **FACCTS award** (France and Chicago Collaborating in the Sciences). The project is driven by **Akira Miyazaki** (IJCLab) together with **Orlando Quaranta**, **Tejas Guruswamy** (Argonne National Laboratory), and **Daniel Bafia** (Fermilab – SQMS Center), all fully engaged in advancing ultrahigh-performance superconducting radio-frequency (SRF) resonant cavities, a key technology for future accelerators. **Hannah Hu** (PhD student at the Enrico Fermi Institute & Fermilab) also joins the project.

In Memory Of

Pierre Pétroff, Key Figure in IN2P3's Contribution to Fermilab's Physics Program, passed away on Oct. 29th, 2025.



Pierre Pétroff was the driving force pioneering IN2P3 involvement in **Fermilab's D0 experiment**. His relentless determination and strategic vision convinced both the scientific community and IN2P3 management to establish France as a key contributor to the D0 experiment, especially to its Liquid Argon Calorimeter —a cornerstone of the experiment. His leadership enabled the federation of a group of seven **IN2P3 laboratories (CPPM, IP2I, IPHC, IJCLab, LAPP, LPNHE, LPSC)**, joining the **IRFU** at the CEA, thus marking the beginning of France's significant contribution to the D0 experiment.
Under his guidance, IN2P3 contributed to important advancements in particle physicis, such as the study of the mass of the W boson to which Pierre made important contributions. Pierre Pétroff also inspired and prepared a generation of French physicists for the challenges and opportunities at the **Tevatron** and later at the **CERN LHC**. He was also a strong advocate for young researchers and for IN2P3's role in international collaborations.

Stay Connected

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