18th International Conference on
Resistive Plate Chambers and Related Detectors
Rio de Janeiro, Brazil, from September 14-18, 2026

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Subject: First Bulletin - Announcement of the 18th International Conference on Resistive Plate Chambers and Related Detectors - RPC 2026 Conference

The International Conference on Resistive Plate Chambers and Related Detectors - RPC Conference will continue a long tradition of scientific meetings, which originated in Lecce in 1991 and continued with biennial commitments in several cities such as: Rome, Pavia, Napoli, Bari, Coimbra, Clermont-Ferrand, Seoul, Mumbai, Darmstadt, Frascati, Beijing, Ghent, Puerto Vallarta, Rome, Geneva and Santiago de Compostela.

The eighteenth edition, in 2026, returns to Latin America, being the first time in Brazil, in the city of Rio de Janeiro, with the support of the Rio de Janeiro State University (UERJ) and the Brazilian Center for Physics Research (CBPF), which recognize their fundamental role in the development of detector technologies with widespread use for the global community of particle physicists, and which will be held at the UERJ, at the Armando Dias Tavares Institute of Physics (IFADT), in the Department of Nuclear and High Energy Physics (DFNAE), in the city of Rio de Janeiro, Brazil, from September 14-18, 2026.

Detection techniques using Resistive Plate Chambers (RPCs) are widely employed in elementary particle and astroparticle experiments. The conference will focus both on the performance of detection technology and on possible upgrade scenarios for large RPC systems, as well as on applications outside the context of particle physics, such as: applications in medical physics - positron emission tomography (PET), border control, and the study of large structures.

The most challenging questions in physics at this moment are related to the search for dark matter, long-lived particles, astroparticle physics, and high-energy collider physics. This demands new challenges in detector layout, front-end electronics, materials, gas mixtures, aging, and new ideas to improve detector performance in the domain of signal readout rate capability and spatio-temporal resolution. It is therefore a traditional event of great importance for the global scientific community.

Historically, the invited speakers are internationally recognized researchers, offering a unique opportunity for postgraduate students and researchers to attend high-quality lectures and interact in a conducive environment. A poster session will also take place, offering another opportunity to present research work.

The main discussion topics of the conference are listed below:

- Particle Collider Experiments;
- New Experiments in HEP;
- Use of Alternative gas mixtures;
- Computational simulations in RPC-type detectors;
- Research & Development - R&D;
- Applications in other domains.

Further details regarding the RPC 2026 conference are available at https://rpc2026.uerj.br/.

Dr. Sandro Fonseca de Souza and Dr. Gilvan Augusto Alves
Chairs of the Local Organizing Committee of the RPC 2026 Conference
https://rpc2026.uerj.br/

Universidade do Estado do Rio de Janeiro
Instituto de Física Armando Dias Tavares
Rua São Francisco Xavier, 524 - Bloco B - 3 andar - Sala 3026A (direção) • Maracanã • Rio de Janeiro, RJ • 20550-900 • Brasil
Tel: (21) 2334-0045 • E-mail: sfonsecaf@uerj.br