



RPC 2026 • XVIII INTERNATIONAL CONFERENCE ON RESISTIVE PLATE CHAMBERS AND RELATED DETECTORS

Welcome Session

CHAIR & SPEAKER

Sandro Fonseca

UERJ, Brazil



RPC 2026 • PRESENTATION OUTLINE

XVIII International Conference on Resistive Plate Chambers and Related Detectors



SECTION 01

Welcome & Overview

- Welcome Session: **Conference opening and introduction**
- Event Highlights: **First edition in South America**
- Scope: **RPC R&D, physics applications, and detector upgrades**

SECTION 02

Detector Technology & R&D

- Gaseous Detectors: **Large-area coverage and high efficiency**
- LHC Systems: **Operational experience in CMS & ATLAS**
- Future Upgrades: **Eco-friendly gas mixtures and fast electronics**

SECTION 03

Interdisciplinary Applications

- Medical Physics: **High-resolution imaging and diagnostics**
- Muography: **Geological scanning and structural inspection**
- Homeland Security: **Cargo screening and material identification**

SECTION 04

Organization & Committees

- Local Committee: **Host leadership and UERJ/CBPF R&D hubs**
- International Advisory: **Global scientific representation**
- Infrastructure: **Regional laboratories and industry links**

RPC 2026 • CONFERENCE OVERVIEW

XVIII International Conference on Resistive Plate Chambers and Related Detectors



EVENT HIGHLIGHTS

First Edition in South America

- **Host City:** Rio de Janeiro, Brazil (UERJ Maracanã Campus)
- **Venue:** Auditorium 111 & technical exhibition space
- **Legacy:** Biennial series running continuously since 1991
- **Community:** Brings together 100+ global scientists & students

INTERDISCIPLINARY IMPACT

Applications Beyond Particle Physics

- **Medical Physics:** Imaging & nuclear medicine instrumentation
- **Muography:** Non-invasive imaging of geological & civil structures
- **Security:** Cargo inspection and non-destructive screening

DETECTOR TECHNOLOGY

Core Physics & Muon Tracking

- **Gaseous Detectors:** High efficiency & cost-effective large-area coverage
- **LHC Experiments:** Essential component in CMS & ATLAS muon systems
- **Upgrades:** Electronics & high-luminosity robustness
- **UERJ Prominence:** Key leadership roles in the CMS-RPC project

LOCAL INFRASTRUCTURE

State-of-the-Art Regional Labs

- **UERJ (LFNP) & CBPF (COHEP):** Leading gas detector R&D hubs
- **INCT-CERN-Brasil:** New Gas Mixing & Regeneration Lab at CBPF
- **Industry Link:** Fostering university-industry technology transfer

LOCAL ORGANIZING COMMITTEE - RPC 2026

CHAIR

Sandro Fonseca

UERJ, Brazil

CO-CHAIR

Gilvan Alves

CBPF, Brazil

COMMITTEE MEMBERS

Alberto Santoro

UERJ, Brazil

Allan Jales

UERJ, Brazil

Andre Asevedo Nepomuceno

UFF, Brazil

Carlos Avila

Universidad de Los Andes, Colombia

Carlos William de Araújo Paschoal

UFC, Brazil

Cesar Castromonte

Universidad Nacional de Ingeniería, Peru

Cristina Barrera

Universidad Iberoamericana, Mexico

Diego Torres

UERJ, Brazil

Dilson de Jesus Damião

UERJ, Brazil

Eduardo Revoredo

UERJ, Brazil

Eliza Costa

UERJ, Brazil

Felipe Torres da Silva de Araújo

UEA, Brazil

Helena Malbouisson

UERJ, Brazil

Helio Nogima

UERJ, Brazil

Humberto Ibarguen

BUAP, Mexico

João Pinheiro

UERJ, Brazil

Jose Augusto Chinellato

UNICAMP, Brazil

Katherine Maslova

UERJ, Brazil

Kevin Mota

UERJ, Brazil

Lucas Mauricio Sigaud

UFF, Brazil

Luis Miguel

CBPF, Brazil

Luiz Mundim

UERJ, Brazil

Mapse Barroso

CBPF, Brazil

Marcia Bergalli

UERJ, Brazil

Mauricio Thiel

UERJ, Brazil

Norberto Mangiavacchi

UERJ, Brazil

Wagner Carvalho

UERJ, Brazil

Walter Alda

UERJ, Brazil

INTERNATIONAL ORGANIZING COMMITTEE

RPC 2026 • Distinguished researchers driving scientific vision and global collaboration



Spain

Diego Díaz

USC / IGFAE

India

Naba Mondal

Saha Institute of Nuclear Physics

Italy

Stefano Bianco

INFN Frascati

Italy

Gabriella Pugliese

Politecnico di Bari and INFN

Japan

Natsuki Tomida

Kyoto University

Brazil

Sandro Fonseca de Souza

UERJ

Italy

Giuseppe Iaselli

Politecnico di Bari and INFN

Switzerland

Roberto Guida

CERN

Brazil

Ulisses Barres de Almeida

CBPF / CLAF

INTERNATIONAL ADVISORY COMMITTEE

RPC 2026 • Global experts providing strategic guidance and academic leadership

Italy

Alessandro Ferretti

University of Torino and INFN

Italy

Alessandro Paoloni

INFN Frascati

Switzerland

Archana Sharma

CERN

Italy

Barbara Liberti

INFN Roma Tor Vergata

Switzerland

Crispin Williams

CERN

Switzerland

Eraldo Oliveri

CERN

France

Imad Laktineh

University of Lyon

Germany

Ingo Deppner

GSI

Korea

Kyong Lee

Seoul University

Italy

Marcelo Abbrescia

Politecnico di Bari and INFN

Belgium

Michael Tytgat

Vrije Universiteit Brussel

Portugal

Paulo Fonte

LIP Coimbra

Italy

Rinaldo Santonico

Univ. of Rome Tor Vergata & INFN

Italy

Roberto Cardarelli

INFN Roma Tor Vergata

China

Yi Wang

Tsinghua University

SCIENTIFIC PROGRAM & SCHEDULE

WEEKLY SCHEDULE & DAILY TRACKS

Timetable & Program Overview

Comprehensive 5-day scientific agenda featuring invited plenary talks, oral contributions, and interactive poster sessions covering recent progress in RPC technologies.

- Comprehensive daily track updates
- Session schedules & contribution details

SPECIAL SESSIONS & WORKSHOPS

Satellite Seminars

Activities organized alongside the main conference to engage the local and international scientific community on transverse and parallel topics as outreach.

- Science & Diplomacy: Origins of CERN
- EHEP Programme in India & Future Directions
- Elsevier Author Workshop

SCIENTIFIC PROGRAMME TRACKS

RPC 2026 • XVIII International Conference on Resistive Plate Chambers



DETECTOR OPERATION & PERFORMANCE

HEP Performance

Operation and performance of RPC/MRPC systems in HEP experiments: efficiency, timing, rate capability, trigger/reconstruction, stability, Run & upgrade performance.

MANUFACTURING & QUALITY CONTROL

Production and QA

Detector production, assembly, industrialization, and QA/QC: procedures, acceptance tests, certification benches, reliability, logistics, and commissioning.

INTERDISCIPLINARY USE CASES

HEP and Beyond HEP Applications

Applications in and beyond HEP: muography/tomography, medical imaging (PET), security, neutron detection, and cosmic-ray telescopes with advanced readout.

SUSTAINABILITY & R&D

Alternative Mixtures and Longevity

Eco-gas R&D and long-term operation: low-GWP gas mixtures, recirculation systems, irradiation & aging studies, impurities, and mitigation strategies.

MODELLING & RECONSTRUCTION

Physics and Simulation

Detector and system simulations: signal formation, space-charge/avalanche, transport, irradiation facilities, and modeling-driven physics performance.

NOVEL CONCEPTS & TECH

Applied Research & New Ideas

Exploratory R&D: novel detector structures/materials, front-end electronics/DAQ, timing innovations, and advanced algorithms including Machine Learning.

CONNECTIVITY & EVENT APP

RPC 2026 • Essential technical information for seamless conference participation

INTERNET ACCESS

eduroam Wi-Fi Network

Attendees can easily connect to high-speed wireless internet across the entire conference venue using standard eduroam credentials.

- **Network SSID:** eduroam
- **Authentication:** Use your home institution credentials (username & password)
- **Setup Advice:** Configure and test your device before traveling to the venue
- **Visitor Access:** Temporary guest access is available at the registration desk if needed

CONFERENCE APP

HEPCon Mobile App

Stay updated with live session updates, personal schedules, and speaker announcements directly on your mobile device.

- **Real-Time Schedule:** Access full agenda, talk abstracts, and venue maps
- **Personal Agenda:** Bookmark sessions and set reminders for key talks
- **Live Notifications:** Receive instant updates regarding room or timing changes
- **Availability:** Downloadable for iOS and Android via App Store / Google Play



Participant Demographics

RPC 2026 • Global Reach & Community Breakdown

Total Registrations

100+

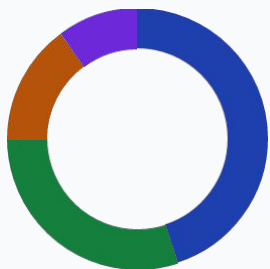
Participants & Researchers Worldwide

Global Representation

18 Countries

Across 4 Continents

Geographic Distribution



■ Host Nation (Brazil): 45%

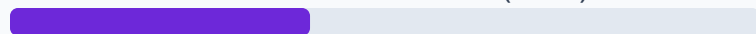
■ Europe: 30%

■ Asia-Pacific: 15%

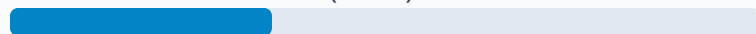
■ Rest of Americas: 10%

Role & Career Breakdown

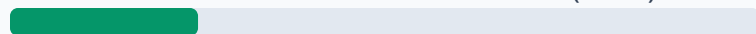
Senior Researchers / Professors (40%)



Postdoctoral Fellows (35%)



Graduate Students / PhD Candidates (25%)



PRESENTATION & SESSION GUIDELINES

RPC 2026 • Essential instructions for speakers, poster presenters, and session chairs

ORAL PRESENTATIONS

Instructions for Speakers

Guidelines for uploading slides and adhering to presentation timing requirements.

- **Slide Upload:** Submit presentation files via Indico prior to your session start.
- **Time Allocation:** Keep strictly within assigned time including Q&A discussion.
- **Format:** format (PDF).

POSTER SESSIONS

Instructions for Posters (Tuesday afternoon)

Details on poster location, dimensions, mounting setup, and display format.

- **Location & Boards:** Mount posters on designated numbered display boards.
- **Dimensions:** Standard A0 portrait format.
- **Attendance:** Be present at your board during dedicated poster session slots.

SESSION MANAGEMENT

Instructions for Conveners

Operational guidance and timekeeping responsibilities for session chairs.

- **Schedule Control:** Ensure all speakers strictly respect their allocated time limits.
- **Q&A Moderation:** Facilitate audience questions and manage discussion flow.
- **Speaker Check:** Confirm presence of all session speakers 10 mins before start.

VENUE, TRANSPORTATION & LOCAL INFO

RPC 2026 • Practical details for navigating the campus, city, and surroundings

CAMPUS & VENUE ACCESS

UERJ Directions & Maps

Accessing the university campus and navigating the facility floors.

- **Venue Access**: Detailed instructions for reaching the UERJ campus.
- **Floor Plan**: Comprehensive UERJ floor map and session room layouts.
- **Registration Desk**: Main entrance info desk and badge collection points.

GETTING AROUND

Transportation Guidance

Airport connections, rideshares, and public transit options in Rio.

- **Airport Taxis & Apps**: Galeão Airport (GIG) official taxis and rideshare zones.
- **Public Transit**: Metro and bus routes connecting to UERJ campus station.

LOCAL HIGHLIGHTS

Dining & Travel Guide

Nearby dining spots and city highlights during your stay in Rio de Janeiro.

- **Dining Options**: Curated list of restaurants and lunch spots near UERJ.
- **Travel Guide**: Rio de Janeiro city visitor recommendations & landmarks.

LOCAL LUNCH OPTIONS

RPC 2026 • Recommended restaurants near the UERJ conference venue

BRAZILIAN RESTAURANT

Petisco Maracanã

Price range: R\$20–80 • Rating: 4.5
★ (Google)

- **Address:** Rua São Francisco Xavier, 575 – Maracanã, Rio de Janeiro – RJ
- **Opening Hours:** Monday to Saturday, 11:00 AM – 4:00 PM
- **Phone:** +55 21 32683055
- **WhatsApp:** +55 21 971056855

BAR & RESTAURANT

Patota Bar & Restaurante

Price range: R\$40–100 • Rating: 4.5
★ (Google)

- **Address:** Blvd. 28 de Setembro, 20 – Vila Isabel, Rio de Janeiro – RJ
- **Service Options:** Dine-in • Takeaway • Delivery
- **Opening Hours:** Opens at 12:00 AM

VENUE, TRANSPORTATION & LOCAL INFO

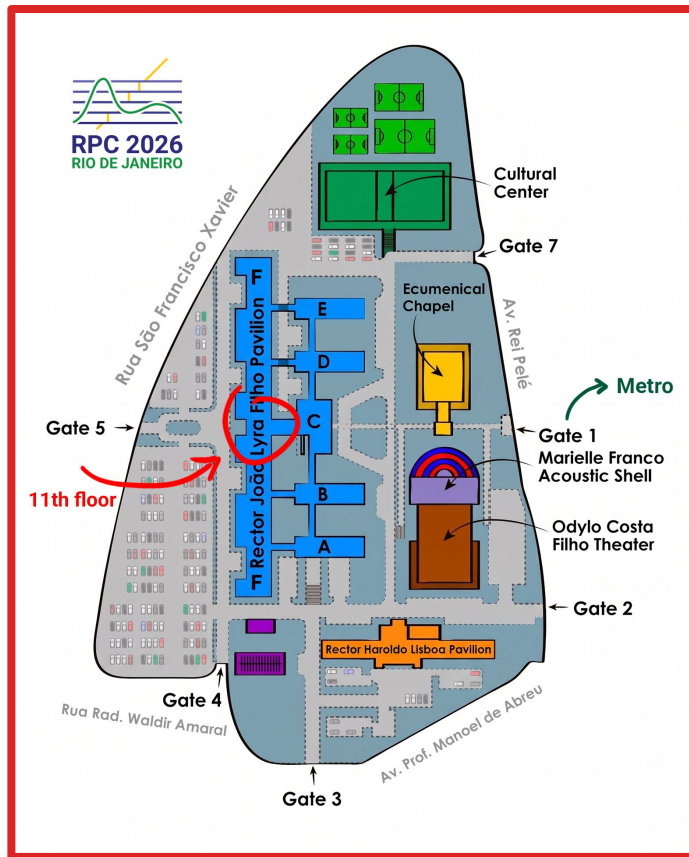
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WELCOME COCKTAIL & OPENING

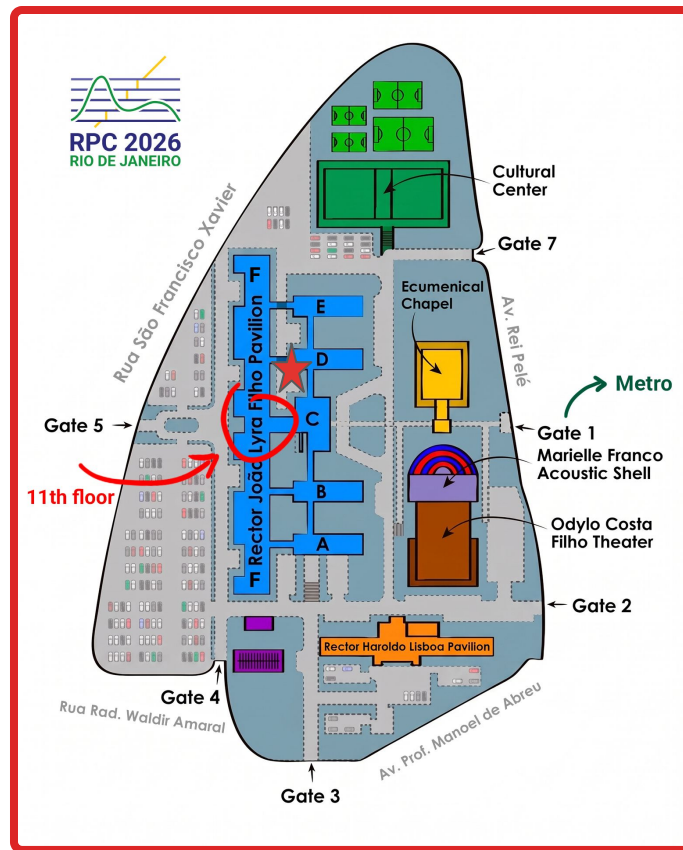
RPC 2026 • Join us at the Ecumenical Chapel following the Opening Ceremony

SOCIAL PROGRAMME

Welcome Reception

Kickoff event to welcome all conference participants, local authorities, and guests in a relaxed atmosphere.

- **Schedule:** Monday, Sept 14, following the Opening Ceremony (starts ~6:00 PM).
- **Venue Location:** Ecumenical Chapel (Capela Ecumênica), 1st floor of the UERJ Maracanã campus.
- **Highlights:** Drinks, local appetizers, and an opportunity to meet and network with the global RPC community.
- **Directions:** Take elevators/stairs down to the ground floor level in front of the Acoustic Shell.



CONFERENCE DINNER & SOCIAL EVENT

RPC 2026 • An evening of Brazilian cuisine, networking, and community building



EVENT DETAILS

Venue & Schedule

Join us for the main social highlight of RPC 2026 in Praia Vermelha.

- **Place:** [Terra Brasilis Restaurant](#)
- **Location:** Praia Vermelha, next to the [Sugarloaf Cable Car](#)
- **Address:** [Praça General Tiburcio S/N, Urca](#)
- **Date & Time:** [Sept 16th, 7:00 – 9:00 PM](#)

GASTRONOMY

Brazilian Flavors

A 3-hour service offering an authentic selection of local culinary delights.

- **Starters & Bites:** Bolinho de feijoada, codfish bites, pastries, tapioca cheese bites w/ pepper jelly, ceviche
- **Mains:** Traditional moqueca, shrimp bobó, and classic feijoada
- **Desserts & Drinks:** Brazilian desserts, natural juices, craft beer, caipirinhas & coffee

NETWORKING & RESERVATIONS

Community & Booking

Connect with peers, speakers, and students in a relaxed seaside setting.

- **Social Experience:** Designed to foster informal discussions and strengthen the global RPC community
- **Booking Info:** Reserve & pay together with your conference registration fee via the travel agency

SPONSORS & INSTITUTIONAL ENDORSEMENTS

RPC 2026 • Supporting technological advances in resistive plate chambers

SPONSORS

Financial Supporters

Key funding agencies supporting the organization of RPC 2026.

CAPES: Brazilian Federal Agency for Support and Evaluation of Graduate Education

FAPERJ: Foundation for Research Support of the State of Rio de Janeiro

INCT CERN-Brazil /CNPq: Federal government research funding support

CERN & DRD1: Gaseous Detector Technologies Collaboration

GSI: Helmholtz Centre for Heavy Ion Research

FAIR: Facility for Antiproton and Ion Research

IHEP: Institute of High Energy Physics, Chinese Academy of Sciences

CLAF: Latin American Physics Center

Elsevier, Rohde & Schwarz and Swagelok Tecflux

ORGANIZERS & PARTNERS

Host & Academic Institutions

Leading research institutions hosting and co-organizing the event.

UERJ: Rio de Janeiro State University (Host Institution)

CBPF: Brazilian Center for Physics Research

UFF: Fluminense Federal University

LIP: Laboratory of Instrumentation and Experimental Particle Physics

ENDORSEMENTS

Scientific Societies

Global and national physics entities providing institutional backing.

SBF: Brazilian Physical Society

IUPAP: International Union of Pure and Applied Physics

DPC-SMF: Division of Particles and Fields of the Mexican Physical Society

CONCLUSION & ACKNOWLEDGMENTS

RPC 2026 • Wishing all participants an inspiring, productive, and memorable week

LOOKING AHEAD

Scientific Impact

Advancing detector technologies and strengthening international collaborations.

- **Knowledge Sharing:**

Exchanging cutting-edge scientific results and technical innovations.

- **Future Roadmap:**

Establishing R&D directions for next-generation systems.

- **Community Growth:**

Fostering inclusion and supporting early-career researchers.

SUPPORT & HELP

On-Site Assistance

Our local organizing team and desk staff are available throughout the week.

- **Info Desk:** Located at the main campus entrance for badge collection and queries.

- **Mobile App:** Check HEPCon for live program adjustments and announcements.

- **Emergency & Staff:** Look for LOC badges or volunteers across the session halls.

WELCOME

Enjoy Rio de Janeiro!

Experience world-class science combined with the unique hospitality of UERJ and Rio.

- **Welcome Reception:** Tonight at the Ecumenical Chapel following the Opening Ceremony.

- **Conference Dinner:**

Wednesday evening at Terra Brasilis, Praia Vermelha.

- **Local Exploration:** Discover local culture, landmarks, and Brazilian gastronomy.

OPENING CEREMONY INVITATION

RPC 2026 • Official Opening Session & Solemn Head Table Speeches

PROGRAMME OVERVIEW

Session Outline

Join us for the official opening of the 18th International Workshop on RPCs.

- **Introduction:** Overview of RPC 2026 & core objectives.
- **Table Precedence:** Formal recognition of distinguished guests.
- **Keynote Speeches:** Remarks from head table members.
- **Closing Remarks:** Concluding statements by Chancellor.

HONORED GUESTS

Solemn Head Table

Distinguished speakers leading the opening session:

1. **Prof.^a Gulnar Azevedo e Silva**
Chancellor of UERJ
2. **Prof. Bruno Deusdará**
Vice-Chancellor of UERJ
3. **Mr. Marcelo Corenza**
Advisor, FAPERJ
4. **Prof.^a Elizabeth Macedo**
Vice-Chancellor Research, UERJ
5. **Prof. Gerson Pech**
Director of the Physics Institute, UERJ
6. **Prof. Luiz Mundim**
Head of the Research Group in the CMS Experiment, UERJ
7. **Prof. Alberto Santoro**
Full Professor in HEP, UERJ
8. **Prof. Sandro Fonseca**
Chair of the RPC 2026, UERJ

CEREMONY DETAILS

Event Information

Essential details for attending the opening ceremony:

- **Date & Schedule:** Monday, Sept 14, 2026
- **Duration:** 1 Hour Session
- **Location:** Ecumenical Chapel (Capela Ecumênica), UERJ Campus
- **Followed By:** Welcome Cocktail & Social Reception