

Application of the Federal University of Bahia (UFBA) to Join IDPASC

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The Federal University of Bahia



Federal University of Bahia (UFBA)

Was created in 1946 at Salvador, Bahia, Brazil, by the joining of Medical, Law, Polytechnique, Fine Arts and Philosophy Schools.

Some numbers (from 2023):

- Undergraduate students: 48315
- Graduate students: 8050
- Professors: 2927

Contributions to IDPASC domain: **Electrical and Computer Engineering** Department (Polytechnique) and **Physics** Institute



Main campus entrance at Salvador, Bahia



Rectory - located at a Historical Building

Contributions from the Electrical and Computer Engineering Department (Polytechnic School)

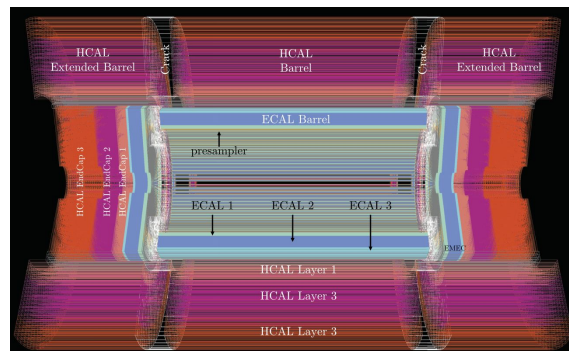


Contributions from Electrical and Computer Engineering

- Active members of the **ATLAS Collaboration** at CERN working mainly on:
 - Trigger** of electrons and photons
 - Signal processing for calorimeter instrumentation**
 - Machine learning** applications
 - Digital electronics** developments
- Development and maintenance of the **Lorenzetti Showers** simulation framework
<https://doi.org/10.1016/j.cpc.2023.108671>
- Former members of the **Neutrinos-Angara** Experiment Collaboration



ATLAS-UFBA team



Lorenzetti Simulator

Contributions from the Physics Institute

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- History in Experimental Particle Physics: since 1990's
 - Participation in **Pierre Auger** Collaboration, **Fermilab** Collaborations, **Neutrinos-Angra** Experiment, ...
- Phenomenology of Particle Physics: Active group working on **Effective field theories**
 - **Global fits** (based on machine learning techniques) in the search of **beyond SM physics**
 - **Heavy and exotic hadron** physics
- Cosmology and Gravitation: active group
 - Cosmological models with **interaction in the dark sector**
 - **Astronomical observations**: type Ia supernovae, cosmic microwave background (CMB) and structure distribution
 - Participation in the **J-PAS Collaboration**

Perspectives in Joining IDPASC

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- UFBA researchers are motivated to join IDPASC and contribute to this important international network.
- UFBA students will very much benefit from the participation in schools of the IDPASC.

More information

<https://www.ufba.br/>

<https://www.eng.ufba.br/>

<http://www.deec.eng.ufba.br/>

<https://ppgfis.ufba.br/en>

<https://www.fis.ufba.br/en>
