



International Union of Pure and Applied Physics

## **IUPAP: C11 and C4 Commissions**

**C11: Roman Pasechnik**

[roman.pasechnik@thep.lu.se](mailto:roman.pasechnik@thep.lu.se)

**C4: Riccardo Catena**

[riccardo.catena@chalmers.se](mailto:riccardo.catena@chalmers.se)

## The Aims Of The Union Are

- Assist in the worldwide development of physics and promote physics as an essential tool for development and sustainability;
- Engage in the strengthening and improvement of physics education, particularly in developing countries;
- Increase diversity and inclusion in physics, enhancing the participation and recognition of women and of people from under-represented groups;
- Foster international cooperation and sponsor suitable international physics meetings;
- Promote the free circulation of scientists and the open access to data;
- Enhance the vital role of early career physicists;
- Strengthen the links with physicists working outside academia and with other scientific communities;
- Uphold openness, honesty and integrity in the practice, application and promotion of physics;
- Promote international agreements on symbols, units, nomenclature and standards.

# IUPAP Commissions (20 in total)

→ C4: Astroparticle Physics

→ C11: Particles and Fields

→ C14: Physics Education

→ C18: Mathematical Physics

→ C19: Astrophysics

# C4 Commission

## Astroparticle Physics

The Commission on Astroparticle Physics (C4), previously known as the Commission on Cosmic Rays, was established by the [International Union of Pure and Applied Physics](#) in 1947 to promote the exchange of information and views among the members of the international scientific community in the general field of Cosmic Ray Physics that was broadened into the wider field of Astroparticle Physics, including

1 The nature and characteristics of the electromagnetic, particle and other radiation present in the cosmos;

2 The theory and models concerning the origin of this radiation;

3 Non-accelerator high energy physics;

4 The specialized technologies necessary in the field and their application

✓ **Connects to C11 (Particle and Fields) and to C19 (Astrophysics)**

✓ **Chair**

**Takaaki Kajita (2021)**

Email: [kajita@icrr.u-tokyo.ac.jp](mailto:kajita@icrr.u-tokyo.ac.jp)

**Member for Sweden**

**Riccardo Catena (2021)**

Email: [riccardo.catena@chalmers.se](mailto:riccardo.catena@chalmers.se)

# Work in C4 Commission

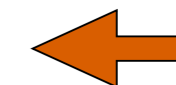
## ◆ Initiation and support of international conferences in the covered fields

- \* Biennial **International Cosmic Ray Conference (ICRC)**, since 1947 (latest ed.: <https://www.icrc2019.org/>).  
**Purpose:** to review the progress and status in the wider field of Astroparticle Physics (incl. cosmic rays, gamma rays, neutrinos, solar & heliospheric physics and dark matter). It is the largest conference in the field with emphasis on the links between the subtopics.
- \* The biennial **ISVHECRI** (International Symposium on Very High Energy Cosmic Ray Interactions)
- \* **TAUP** (Topics in Astroparticle and Underground Physics)
- \* Very Large Neutrino Telescope (**VLNT**)
- \* Identification of Dark Matter (**IDM**)
- \* Annual Terra-electron Volt Particle Astrophysics (**TeVPA**)
- ✓ **C4 agreed to endorse TAUP 2023 (to be held in Vienna, Austria, 28/08 - 01/09)**
- ✓ **C4 agreed to sponsor ICRC 2023 (to be held in Nagoya, Japan, 26/07 - 03/08)**

## ◆ Organization of the awards, medals, prizes, contests

- ✓ **As a part of the celebrations for the IUPAP centenary, there has been a photo contest. A photo of the IceCube experimental site was ranked first.**

## ◆ Publication of newsletters, circulars etc



**Sign up at [iupap.org](http://iupap.org)**

## ◆ Promotion of free circulation of scientists

## ◆ Collaboration across other IUPAP Commissions

## ◆ Preparation of a summary of progress/activities to the IUPAP General Assembly

# C4 Awards & Prizes

The following prize winners are selected by the commission and awarded during the ICRC conferences ([nominate to the C4 Chair!](#)):

- **IUPAP Young Scientist Prizes in Astroparticle Physics** in recognition of outstanding contribution of up to a maximum of two young scientists in any area of Astroparticle Physics;
- **Homi Bhabha Medal and Prize** established by the IUPAP and the Tata Institute of Fundamental Research (TIFR), Mumbai, India in 2010 to an active scientist who has made distinguished contributions in the field of high-energy Cosmic Ray Physics and Astroparticle Physics over an extended academic career;
- **O’Ceallaigh Medal** established by the estate of Prof. O’Ceallaigh and the Dublin Institute for Advanced Studies to honour scientists who have made distinguished contributions to Cosmic Ray Physics;
- **Shakti Duggal Award**  
to recognize an outstanding young scientist for contributions in any branch of Cosmic Ray Physics;
- **Yodh Prize**  
to recognize a scientist whose research career has had a major impact on the understanding of cosmic rays

**Deadline for nomination is usually in February the year of an ICRC**

# C11 Commission

## Particle and Fields

### Mission/mandate

- ◆ **Promotion the exchange of information and views within scientific community in the general field of Particles and Fields including:**
  - *The theory and experiment concerned with the nature and properties of the fundamental constituents of matter and the forces acting between these constituents;*
  - *The maintaining of liaison with ICFA;*
  - *The accelerators, detectors and techniques used in these investigations;*
  - *The industrial applications of relevant technologies.*
- ◆ **Sponsorship/organisation of international conferences**
- ◆ **Promotion of free circulation of scientists**
- ◆ **Two 2022 Early Career Scientist Prizes (to be awarded at ICHEP2022)**
- ◆ **Publication of newsletters, circulars etc**
- ◆ **Liaison with General Commissions of IUPAP**
- ◆ **Preparation of a summary of progress/activities to the IUPAP General Assembly**

14 members, mandate Jan 1st 2022 - Dec 31st 2024

### Chair

Florencia Canelli (2014) (2017) (2021)

Email: [canelli@physik.uzh.ch](mailto:canelli@physik.uzh.ch)

### Member for Sweden

Roman Pasechnik (2021)

Email: [roman.pasechnik@thep.lu.se](mailto:roman.pasechnik@thep.lu.se)

# C11: Lepton-Photon & ICHEP series

## ◆ Governing body for ICHEP and Lepton-Photon conferences (decides on organisation etc, typically at ICHEP 4yrs ahead)

### \* International Symposium on Lepton Photon Interactions at High Energies

(2022 online edition: <https://indico.cern.ch/event/949705/>).

It covers a wide range of topics of major interest to the particle physics community. These span exploitation of current experiments, R&D towards future facilities, theoretical developments, and contributions on inclusion, diversity, and public engagement. In addition to the core plenary talks, it includes parallel and poster sessions.

### ✓ **31st International Symposium on Lepton Photon Interactions at High Energies will be hosted by Monash University in Melbourne, July 17-21 2023**

### \* International Conference on High Energy Physics (ICHEP)

(2022 edition, Bologna 6-13 July: <https://www.ichep2022.it>)

"...For more than 70 years ICHEP has been the cornerstone event for the scientific community involved in high energy physics (HEP), where the most important recent results and future strategies are presented and discussed bringing together experimentalists and theorists in a vital and productive exchange of views and ideas... Fresh results are expected from the LHC experiments both from run-2 data analysis and the first collisions after the collider restart as well as from neutrino, astroparticle physics and cosmology. Special attention will be dedicated to the plans for upgrading present detectors and facilities and to the future strategies and new projects for the years to come. A poster session is foreseen allowing young scientists to present their studies."

### ✓ **C11 assigned ICHEP2024 in Prague**



# C11: Conference support

## 3 types of support:

Conference Type	Attendees	Conference Type Description	
Type A (General)	750 - 1000	Provide broad view of entire field of commission	10.000€
Type B (Topical)	300 - 600	Concentrate on broad subfield (eg Heavy Ion Physics)	5.500€
Type C (Special)	50 - 200	Concentrate on specialized topics	endorsed w/o financial allocations

## ✓ Recently supported conferences from C11:

2022:

A: International Conference on High Energy Physics ICHEP 2022 C11

A: International Symposium on Lepton Photon Interactions at High Energies 2021

B: International Conference on Neutrino Physics and Astrophysics Neutrino 2022

B: Large Hadron Collider Physics (LHCP) Conference LHCP 2022

## ✓ Applications for support of 2023 conferences (closed on June 1st, ranking to be reported to IUPAP by June 24th):

- International Symposium on Lepton Photon Interactions at High Energies 2023, traditional conference, all field
- Large Hadron Collider Physics (LHCP) Conference LHCP 2023 - 400 participants, broad field of collider physics
- International Particle Accelerator Conference 2023 (IPAC23) - 1200 participants, broad field of accelerators
- International Beam Instrumentation Conference (IBIC) 2023 - 250 participants, specialized topics, beam optics

## ✓ Criteria: affordability, world-wide participation, gender equality and “code of conduct”