

News from IUPAP

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November 25, 2025



CHALMERS



Swedish
Research
Council

*Knut och Alice
Wallenbergs
Stiftelse*

- The International Union of Pure and Applied Physics (IUPAP) was established in 1922
- It currently has 52 Territorial Members
- 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;
 - 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**

Selected actions

- IUPAP endorses and sponsors international conferences and workshops:
 - **Type A**, or General, conference. Large general meeting of 750 -1000 attendees covering an entire field (i.e. the area covered by a Commission).
 - **Type B**, or Topical, conference. Smaller with 300 - 500 attendees on a subset of topics.
 - **Type C**, or Special, conference. 50 - 200 attendees on a specialized topic, and may be a workshop.
 - **Type D**, workshops in developing countries.
- IUPAP sponsors a number of awards for scientists at different stages of their careers
 - **Major prizes** honor the achievements of established renown physicists within the subfields of each Commission.
 - **Early Career Scientist Prizes** recognize the contributions of early career physicists within these subfields.

- The Union is governed by its General Assembly
- The Council is its top executive body, supervising the activities of specialised International Commissions, Affiliated Commissions and Working Groups
- International Commissions
 - C1: Commission on Policy and Finance
 - C2: Commission on Symbols, Units, Nomenclature, Atomic Masses and Fundamental Constants
 - C3: Statistical Physics
 - **C4: Astroparticle Physics**
 - C5: Low Temperature Physics
 - C6: Biological Physics
 - C8: Semiconductors
 - C9: Magnetism
 - C10: Structure and Dynamics of Condensed Matter
 - **C11: Particles and Fields**
 - C12: Commission on Nuclear Physics
 - C13: Physics for Development
 - C14: Physics Education
 - C15: Atomic, Molecular, and Optical Physics
 - C16: Plasma Physics
 - C17: Laser Physics and Photonics
 - C18: Mathematical Physics
 - C19: Astrophysics
 - C20: Computational Physics

C4: Astroparticle Physics

- C4 promotes the exchange of information among the members of the international scientific community in the general field of Astroparticle Physics, including
 - The nature and characteristics of the electromagnetic, particle and other radiation present in the cosmos;
 - The theory and models concerning the origin of this radiation;
 - Non-accelerator high energy physics;
 - The specialised technologies necessary in the field and their application

C4 mandate and composition

■ Mandate includes:

- Initiate and support international conferences such as ICRC, ISVHECRI, TAUP, VLVnT, IDM, and TeVPA
- Promotion of free circulation of all scientists
- Award the IUPAP Early Career Scientist Prize in Astroparticle Physics
- Award the Homi Bhabha Medal and Prize "*to an active scientist who has made distinguished contributions in the field over an extended career*"
- Award the O'Ceallaigh Medal "*to a scientist who has made distinguished contributions to Cosmic Ray Physics*"
- To maintain liaison with other IUPAP Commissions, and make available to each General Assembly of the Union a summary of activities

■ Members:

- Ralph Engel, Germany (Chair)
- Christina M. S. Cohen, United States (Vice-Chair)
- Carola Chinelatto, Brazil (Secretary)
- Yvonne Wong, Australia
- Zhiguo Yao, China(Beijing)
- Rami Vainio, Finland
- Pankaj Jain, India
- Elena Amato, Italy
- Shoichi Ogio, Japan
- Sergey Troitsky, Russian Federation
- Du Toit Strauss, South Africa
- **Riccardo Catena, Sweden**
- Yuan-Hann Chang, China (Taipei)
- Subir Sarkar, United Kingdom

C4 news: IUPAP conferences

A banner for the ICRC 2025 conference. It features the IUPAP logo (International Union of Pure and Applied Physics) in the top left. The text 'Commission on Astroparticle Physics (C4)' is in the top right. The main text reads 'Welcome to the ICRC 2025' and 'The Astroparticle Physics Conference'. Below that, it says 'Geneva July 15 – 24, 2025'. The background is a scenic view of Geneva, Switzerland, with the Jet d'Eau fountain and the city skyline across the lake.

IUPAP
INTERNATIONAL UNION OF
PURE AND APPLIED PHYSICS

Commission on Astroparticle Physics (C4)

Welcome to the ICRC 2025
The Astroparticle Physics Conference

Geneva July 15 – 24, 2025

A banner for the ISVHECRI 2026 conference. It features a collage of images: a classical building facade, a coastal town, and a rocky coastline with a turquoise sea. The text 'International Symposium on Very High Energy Cosmic Ray Interactions' is in the top right. Below that, it says 'ISVHECRI 2026' and 'July 6 – 10, 2026' and 'Lecce (Italy)'. The IUPAP logo is in the bottom left.

**International Symposium on Very High
Energy Cosmic Ray Interactions**

ISVHECRI 2026
July 6 – 10, 2026
Lecce (Italy)

IUPAP

A banner for the TAUP 2025 conference. It features a large blue circular graphic with a white stylized 'A' shape inside. The text 'TAUP 2025' is in large white letters. Below it, it says '19TH INTERNATIONAL CONFERENCE ON TOPICS IN ASTROPARTICLE AND UNDERGROUND PHYSICS'. The location 'XICHANG, SICHUAN, CHINA' and the dates '2025.8.24 – 8.30' are at the bottom. The IUPAP logo is in the top left.

TAUP
XICHANG

TAUP 2025
19TH INTERNATIONAL
CONFERENCE
ON TOPICS IN
ASTROPARTICLE AND
UNDERGROUND PHYSICS

**XICHANG,
SICHUAN, CHINA** 2025.8.24 – 8.30

IUPAP



It is a great pleasure to welcome you to the 39th International Cosmic Ray Conference (ICRC 2025) in Geneva, Switzerland.

The ICRC conferences are held biennially since 1947 by the Commission C4 (Astroparticle Physics) of the International Union of Pure and Applied Physics (IUPAP*). The main topics are Cosmic Ray Physics, High Energy and Gamma-Ray Astrophysics, Neutrino Astrophysics, Dark Matter, Solar and Heliospheric Physics, Multi-messenger and Gravitational Wave Astronomy.

The Local Organizing Committee (LOC), the Scientific Organizing Committee (SOC), and the International Advisory Committee (IAC) are jointly organizing ICRC 2025.

All the members of the LOC are proud to host ICRC 2025 and welcome you in Geneva to have great and fruitful time during the conference.

C4 news: awarded prizes

IUPAP Early Career Scientist Prize

... to recognize research by young scientists with a maximum of 8 years research experience following a PhD (excluding career interruptions)

Dr. Rebecca Diesing

Institute for Advanced Study & Columbia University

for her contributions in unravelling the non-thermal phenomenology of astrophysical objects such as novae, supernova remnants, and active galactic nuclei



Honors: Damiano Caprioli
Presenter: Ralph Engel
Acceptance: Rebecca Diesing



IUPAP Early Career Scientist Prize

... to recognize research by young scientists with a maximum of 8 years research experience following a PhD (excluding career interruptions)

Prof. Ali Kheirandish

University of Nevada, Las Vegas

for his theoretical insights in associating X-ray emitting active galaxies with sources of cosmic neutrinos and his direct contributions to the experimental confirmation



Honors: Francis Halzen
Presenter: Ralph Engel
Acceptance: Ali Kheirandish



O'Ceallaigh Medal

... to honour outstanding contributions to cosmic ray physics and to recognize significant contributions to our field over an extended career

Prof. Luke O'Connor Drury

Dublin Institute for Advanced Studies

for his fundamental contributions to the development of the theory of diffusive shock acceleration with special emphasis on the non-linear aspects



Honors: Subir Sarkar
Presenter: Ralph Engel
Acceptance: Luke Drury



IUPAP-TIFR-LOCUS Homi Bhabha Award

... to recognize an active scientist who has made distinguished contributions in the field of cosmic ray physics over an extended academic career

Prof. Barry C. Barish

California Institute of Technology (Caltech)

for his pivotal leadership role in the design and development of the LIGO gravitational wave telescope and the MACRO detector in the Gran Sasso underground laboratory, and for fundamental contributions to the development of multi-messenger astrophysics



Honors: Fulvio Ricci
Presenter: Ralph Engel and Sunil Gupta
Acceptance: Barry Barish



IUPAP: C11 Commission

Roman Pasechnik

Department of Physics, Lund U.

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**

- ◆ **Publication of newsletters, circulars etc**

- ◆ **Liaison with General Commissions of IUPAP**

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

Officers

- Chair: Marcelo Gameiro Munhoz (Brazil)
- Vice-Chair: Isabell Melzer-Pellmann (Germany)
- Secretary: Liangjian Wen (China)

Member for Sweden

Roman Pasechnik (2021)

+ 11 members, mandate Jan 1st 2025 - Dec 31st 2027 (+ 3 associate members)

<https://iupap.org/who-we-are/internal-organization/commissions/c11-particles-and-fields/#mission-mandate>

C11: recent progress

C11 Young Scientist Prize 2026:

The call for nominations for the next ECSP opens on November 1, 2025, with the deadline on February 1, 2026, and award decisions announced by May 31, 2026. Transition to a DESY-based application platform is under review. Presentation of the awardees will occur during ICHEP 2026.

Information infrastructure:

C11 was invited to write a strong letter of support for the High Energy Information Infrastructure as part of the update of the European Strategy for Particle Physics, emphasizing that robust, open-access resources are essential for the global and collaborative nature of HEP. The letter highlights key platforms such as INSPIRE-HEP, arXiv, HEPData, and the CERN Open Data Portal, expresses concern about their long-term sustainability, and urges major laboratories (including CERN) and international funding agencies to provide sustained, comprehensive support.

Organizational Structure and Regional Representation

One of the main goals of the current C11 mandate is to improve direct engagement with particle physicists and strengthen community belonging, with members acting as IUPAP ambassadors and promoting visibility at international and regional conferences. To this end, C11 formalized regional liaisons for eight global regions:

- Western Europe – Roman Pasechnik
- Eastern Europe – Jana Bielčíková
- North America – Oliver Stelzer-Chilton
- Latin America – Deywis Moreno
- Sub-Saharan Africa – Deepak Kar
- Middle East & North Africa – Shaaban Khalil
- East Asia – Atsuko Ichikawa
- South & South-East Asia – Sandip Trivedi
- Oceania – Nicole Bell

to improve communication between local HEP communities and IUPAP/C11, and discussed duties such as presenting C11 at regional meetings, organizing local community meetings, and conducting surveys to gather community concerns.

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**

(2025 edition: 32nd LP2025, 25 - 29 August, Madison, Wisconsin, US)

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.

✓ **32nd International Symposium on Lepton Photon Interactions at High Energies (LP-2025) will be held in Madison, Wisconsin, United States**

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

(2024 edition in Prague July 17-24th: <https://indico.cern.ch/event/1291157/>)

ICHEP has been held every two years since more than 50 years, and is the reference conference of particle physics where most relevant results are presented. At ICHEP, physicists from around the world gather to share the latest advancements in particle physics, astrophysics/cosmology, and accelerator science and discuss plans for major future facilities.

✓ **43th International Conference on High Energy Physics (ICHEP2026) in July 2026 to be held in Natal, Brazil**

C11: Conference support

3 types of support (application deadline typically **June 1st** each year):

Conference Type	Attendees	Conference Type Description
Type A (General)	750 - 1000	Provide broad view of entire field of commission
Type B (Topical)	300 - 600	Concentrate on broad subfield (eg Heavy Ion Physics)
Type C (Special)	50 - 200	Concentrate on specialized topics

12.9 k€ (3.7 k€ travel)

6.4 k€

endorsed w/o financial allocations

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

Conference supervision for 2025:

Category A

32nd LP2025, 25 - 29 August, Madison, Wisconsin, US

Category B

13th LHCP2025, 5 - 10 May, Taipei, Taiwan

Category C

Higgs Hunting 2025 (HH2025), Orsay & Paris, France & EPS-HEP 2025, 7 - 11 July, Marseille, France

Upcoming conferences for 2026:

A: *43th ICHEP2026, Natal, Brazil*

B: *TIPP-2026, Mumbai, India; LHCP2026, Paris, France; IPAC 2026, Deauville, France*

C: *SILFAE 2026, Bogota, Colombia; IAS 2026, Melbourne, Australia; 16th "Higgs Hunting" 2026, Paris, France*