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http://iupap.org/commissions/c11-particles-and-fields

IUPAP – International Union of Pure and Applied Physics



"To assist in the worldwide development of physics, to foster international cooperation in physics, and to help in the application of physics toward solving problems of concern to humanity."

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

WORKING GROUPS

WG1: International Committee for Future Accelerators (ICFA)

WG5: Women in Physics

WG7: International Committee on Ultrahigh Intensity Lasers (ICUIL)

WG9: International Cooperation in Nuclear Physics (ICNP)

WG11: Gravitational Wave International Committee (GWIC)

WG13: Newtonian Constant of Gravitation

WG14: Accelerator Science

WG15: Soft Matter

WG16: Physics and Industry

WG18: Working Group on Ethics

WG19: Working Group on Quantum Science and Technology

WG20: Working Group on open science

WG21: Working Group Physics for Climate Change Action and Sustainable Development New

AFFILIATED COMMISSIONS

AC1: International Commission for Optics

AC2: International Commission on General Relativity and Gravitation

AC3: International Commission for Acoustics

AC4: International Commission on Medical Physics

AC5: Affiliated Commission of Physics Students

AC6: Affiliated Commission on the History and Philosophy of Physics

60 territorial members are representatives of identified physics communities across the world



C11 Mission

To promote the exchange of information and views among the members of the international scientific community in the general field of Particles and Fields including:

- 1.The theory and experiment concerned with the nature and properties of the fundamental constituents of matter and the forces acting between these constituents;
- 2.The maintaining of liaison with WG 1 ICFA;
- 3. The accelerators, detectors and techniques used in these investigations;
- 4. The industrial applications of relevant technologies.

To recommend for Union sponsorship international <u>conferences</u> which qualify for support under Union regulations. To initiate such conferences as their need arises from the evolution of the Commission field. To assist in the organization of such conferences when practical. To ensure the compatibility of international conferences in its field and to discourage clashes and incompatibility of dates.

To promote the free circulation of scientists; to assist conference organizers in ensuring such free circulation and in resolving potential infringements.

To organize where feasible the <u>award</u> of medals or other testimonials of excellence in its field.

C11 members 2021-2024

Florencia Canelli (chair) (Switzerland)
Azwinndini Muronga (vice-chair) (South Africa)
Young-Kee Kim (secretary) (US)

Members

Alexander Sorin (Russia)

Nicole Bell (Australia)

Barbara Clerbaux (Belgium)

Marcelo Munhoz (Brasil)

Jana Bielcikova (Czech Republic)

Lydia Iconomidou-Fayard (France)

Srubabati Goswami (India)

Atsuko Ichikawa (Japan)

Roman Pasechnik (Sweden)

Franz Muheim (UK)

Isabell Melzer-Pellmann (Germany)

Associate members

Oliver Stelzer Chilton (Canada)

Liangjian Wen (China)

Ana Machado (Brazil)

Taakaki Kajita (C4 chair)

Florencia Canelli - University of Zurich

Anu Aprahamian (C12 chair)

New membership 2024-2027 will be selected in October at the 33rd IUPAP General Assembly



IUPAP news

International Year of Quantum Science and Technology 2025



on June 7, 2024, the United Nations proclaimed 2025 as the International Year of Quantum Science and Fechnology (IYQ). According to the proclamation, this year-long, worldwide initiative will "be observed through activities at all levels aimed at increasing public awareness of the importance of quantum

The year 2025 was chosen for this International Year as it recognizes 100 years since the initial development of quantum mechanics. <u>Join us</u> in engaging with quantum science and technology education and celebration throughout 2025!

UN General Assembly proclaimed 2025 as the International Year of Quantum Science and Technology (https://quantum2025.org/en/)

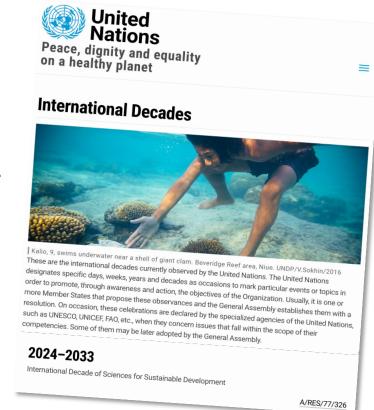
Led by IUPAP and includes many C11 relevant organizations as partners https://www.iybssd2022.org/en/unions-partners/

The C11 community has the potential to contribute enormously to both.

C11 commission encourages scientists to engage within their local organization and participate in the activities that will be organized to celebrate IYQ2025 and IDSSD.

International Decade of Sciences for Sustainable Development

UN General Assembly declared 2024-2033 as the International Decade of Sciences for Sustainable Development (IDSSD) (https://www.un.org/en/observances/international-decades)



The approval came as a sequel to the very successful International Year of Basic Sciences for Sustainable Development (IYBSSD, https://www.iybssd2022.org/en/) in which IUPAP played a key role

First 2 years dedicated to form the "Earth Humanity Coalition" which serves for activation, mobilization and expansion. EHC includes scientists from all fields (humanities, social and human sciences, natural sciences, etc.). If your organization/institute/university is interested, you can consider joining the EHC https://earth-humanity.org

Conferences

Conferences sponsored by IUPAP

- Categorized depending on number of attendees and breath of topics covered as Type A, Type
 B, Type C (ype D for workshops in developing countries)
 - Travel grants can be requested to assist scientists from developing countries for Type A conferences
- Requirements:
 - Have a significant scientific value
 - Have involvement of internationally distinguished physicists
 - Be truly international: participation and location rotate across countries and continents
 - Participation Of Women: at least 20% of women represented across the three major conference committees, viz IAC, PC, and LOC, and a minimum of 10% of women attending
 - Host country declaration that individuals will not be excluded solely on ground of national origin or citizenship
 - Fee: ensure that IUPAP supported conferences (sponsored and endorsed) are accessible
 to physicists at all stages of their careers and from all groups and countries,
 - Code of conduct: include a code of contact and adhere to the IUPAP anti-harrasement policy



C11 supported conferences

2024

Funding support

- A: International Conference of High Energy Physics (ICHEP2024) - 1000 participants, broad field of particle physics
- B: Large Hadron Collider Physics Conference LHCP 2024 (LHCP24) - 2024 participants, broad field of collider physics

Endorsement

- C: Higgs Hunting 2024 (HH2024) 120 participants, topical
- C: International Workshop on Neutrino-Nucleus Interactions (NuInt2024) – 100 participants, topical

2025

Funding support

- A: Lepton Photon conference 2025 (LP25) Madison, Wisconsin, United States
- B: Large Hadron Collider Physics Conference LHCP 2025 (LHCP25) – Taipei, Taiwan

Endorsement

- C: Higgs Hunting 2025 (HH2025) Orsay & Paris, France
- C: European Physical Society HEP 2025 Marseille, France



Solicitation for 2026 conference sponsorship and endorsement

- IUPAP C11, Particles and Fields, is soliciting applications from institutions interested in hosting conferences in 2025
- Applications are accepted until June 1, 2025
 - For conferences that will be held anytime in 2025 (i.e. anytime between 1 Jan and 31 Dec 2025)
 - Applications for financial support: open in Jan 1, 2025 review is done in July 2025 https://iupap.org/conferences/applications/application-for-conference-sponsorship/
 - Applications for endorsement: always open review soon after submission https://iupap.org/conferences/applications/application-for-conference-endorsement/
- The application should contain information about the participating institutions, the local organizing committee, likely costs and locations and alternative funding sources.
- Please see http://iupap.org/commissions/c11-particles-and-fields/c11-conference-guidelines/ for the full conference guidelines.



ICHEP and Lepton Photon conferences

- IUPAP C11, Particles and Fields, solicits bids for hosting ICHEP and Lepton Photon 3 to 4 years in advance to allow organizers to overlap with the previous organization for a smooth transition
 - New: TIPP hosting decision 2-3 years in advance
- During ICHEP 2024, C11 reviewed applications for TIPP 2026, LP 2027, ICHEP 2028
 - TIPP 2026 will be hosted in Mumbai, India
 - LP 2027 will be hosted in Shanghai, China
 - ICHEP 2028 will be hosted in Bangkok, Thailand



Lepton Photon

- 2007 Daegu
- 2009 Hamburg
- 2011 Mumbai
- 2013 San Francisco
- 2015 Ljubljana
- 2017 Guangzhou
- 2019 Toronto
- 2021 Manchester
- 2023 Melbourne
- 2025 Madison
- 2027 Shanghai (new)

ICHEP

- 2008 Philadelphia
- 2010 Paris
- 2012 Melbourne
- 2014 Valencia
- 2016 Chicago
- 2018 Seoul
- 2020 Prague (virtual)
- 2022 Bologna
- 2024 Prague
- 2026 Natal
- 2028 Bangkok (new)

TIPP

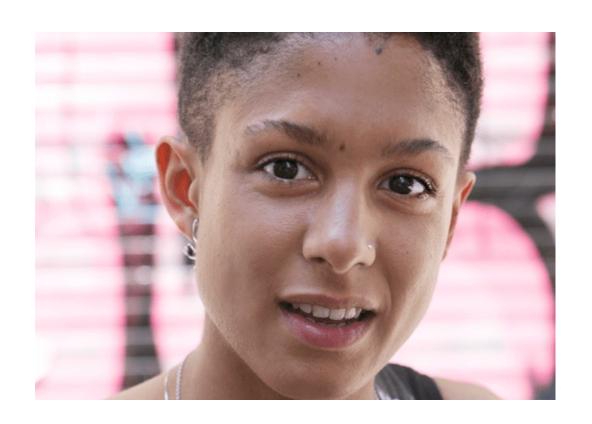
- 2009 Tsukuba
- 2011 Chicgo
- 2014 Amsterdam
- 2017 Beijing
- 2021 Vancouver (virtual)
- 2023 Cape Town
- 2026 Mumbai (new)

Early Career Scientist Awards



Early Career Scientist Award 2024 Jennifer Ngadiuba

• For co-design, development and deployment of novel machine learning techniques to address complex elementary particle physics challenges with focus on ultra-fast real-time data analysis on hardware triggers and for model agnostic searches for beyond the Standard Model physics signals at the Large Hadron Collider.





Early Career Scientist Award 2024 lan Moult

• For the invention of novel jet substructure observables which have had a direct impact on the collider physics program, and for developing new effective field theory techniques to enable high precision calculations, including in multiprong kinematics and in sub leading soft and collinear limits.

