



IUPAP at 100

Annual Meeting of the Swiss Physical Society, 27–30 June 2022
Université de Fribourg

Jens Vigen, International Union of Pure and Applied Physics
Secretary-General



IUPAP mission:

“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”.



International Union of Pure and Applied Physics

Further IUPAP principles

- Foster openness and inclusiveness in physics
- Promote free circulation of physicists (and data)
- Ensure integrity and credibility
- Promote physics as a building block of innovation and multidisciplinary research
- Promote physics as an essential tool for development and for sustainability



International Union of Pure and Applied Physics

Members

- Territorial members
 - 60 territories represented by adhering bodies
- Personal members
 - Only ex officio
- Corporate associate members
 - New category
 - 2 CAMs

Switzerland

- Founding member
- Represented in IUPAP by Swiss Academy of Sciences
 - Liaison Hans Peter Beck
- Four votes at the General Assembly

Commissions

- The first scientific commission, on Units, was established in 1931 at the third General Assembly
- Currently there are 18 Commissions
- The Commissions organize the major international conferences in their field and award Early Career Scientist Prizes



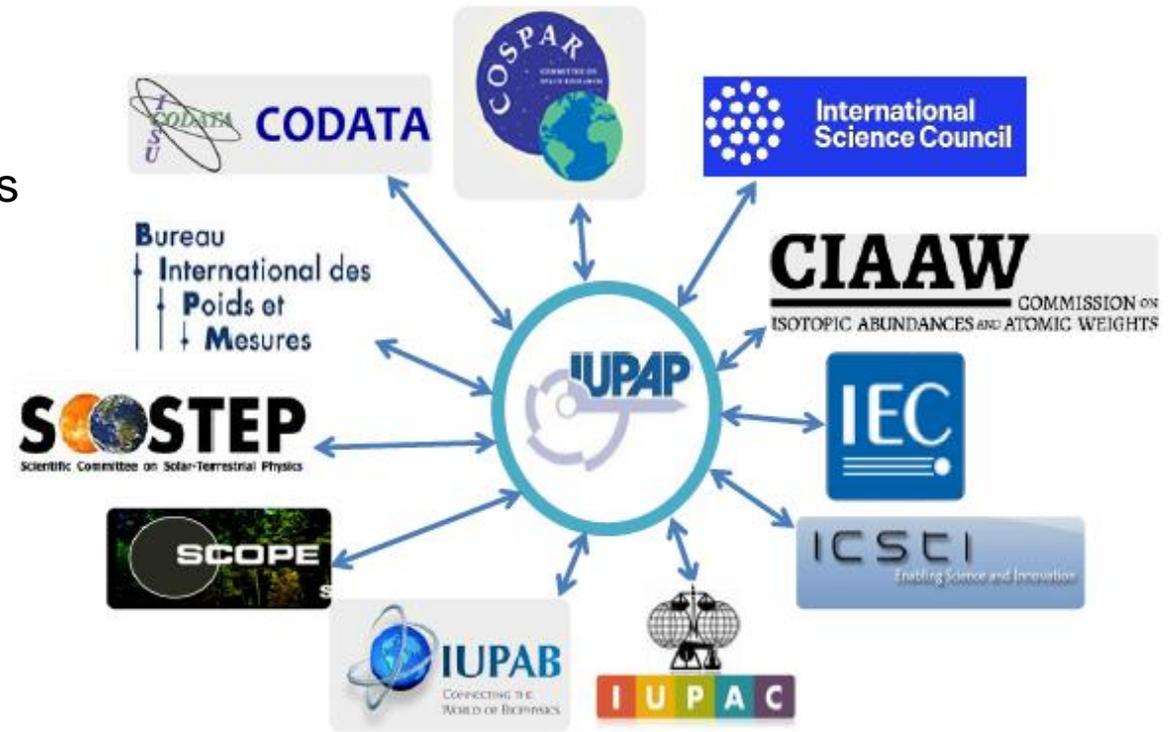
- [Policy and Finance \(C1\)](#)
- Symbols and units (C2)
- Statistical mechanics (C3)
- Astroparticle physics (C4)
- Low temperature physics (C5)
- Biological physics (C6)
- ~~Acoustics (C7)~~ → Became AC3 in 1996
- Semiconductors (C8)
- Magnetism (C9)
- Condensed matter (C10)
- Particles and fields (C11)
- Nuclear physics (C12)
- Physics for development (C13)
- Physics education (C14)
- Atomic molecular and optical physics (C15)
- Plasma physics (C16)
- Laser physics and photonics (C17)
- Mathematical physics (C18)
- Astrophysics (C19)
- Computational physics (C20)

Affiliated commissions

- International committees or organizations of physicists, with their own administrative structure, who wish to join IUPAP commissions
- Participate in IUPAP activities, endorse IUPAP principles

Currently there are six affiliated commissions

- International Commission for Optics (AC1)
- International Commission on General Relativity and Gravitation (AC2)
- International Commission on Acoustics (AC3)
- International Commission on Medical Physics (AC4)
- International Association of Physics Students (AC5)
- Affiliated Commission on the History and Philosophy of Physics (AC6)



Working Groups

- WG1: International Committee for Future Accelerators (ICFA)
- WG2: Communication in Physics
- WG5: Women in Physics
- WG7: International Committee on Ultrahigh Intensity Lasers (ICUIL)
- WG9: International Cooperation in Nuclear Physics (ICNP)
- WG10: Astroparticle Physics International Committee (ApPIC)
- WG11: Gravitational Wave International Committee (GWIC)
- WG12: Energy
- WG13: Newtonian Constant on Gravitation
- WG14: Accelerator Science
- WG15: Soft Matter
- WG16: Physics and Industry
- WG17: Centenary
- WG18: Ethics
- WG19: Quantum Science and Technology

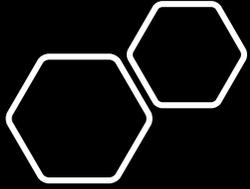


Some working groups have had close links with working groups of the OECD Global Science Forum

Conferences

- IUPAP sponsors and endorses ~50 conferences per year
 - Very large, medium size, specialized
 - Always with a special attention to developing countries
 - Nominations via the commissions
- Requirements for sponsorship
 - Scientific interest
 - Worldwide attendance with no a priori restriction or difficulty to attend
 - Inclusiveness and diversity
 - Allowing for remote participation is about to be established as an additional criteria
 - Reducing the conference-carbon footprint
 - Improving diverse participation





Free movement of scientists

Now that the Cold War is over, the free movement of scientists might not seem to be an issue any more, but one must recognize that new problems may arise wherever tension between nations occurs. It therefore remains just as vital for the union to support physicists who are prevented from travelling, for whatever reason.

Jan Nilsson, [*Phys. World* 9 1996 \(12\) 13](#)

Possible IUPAP Affiliation

Physicists, and scientists more generally including students, from any country around the world who feel excluded from participating in IUPAP-related conferences, workshops, meetings, etc, based on their affiliation, country of origin may formally apply to the IUPAP via the organizer of the IUPAP-related activity to use the IUPAP as their affiliation only for that specific activity. The applicant will need to sign a declaration that they are not actively supporting war and are committed to democratic principles for resolving disagreements and conflicts.

The IUPAP Executive Council

IUPAP resolution April 2022

Comment



Albert Einstein was exempted from a 1919–26 boycott of German scientists because of his pacifist views.

A century of science boycotts

Michael D. Gordin

Researchers have severed global ties before – what happened?

to outbursts of domestic opposition. Although some grumbling against the leadership in Moscow had been indulged in the preceding decade, in recent years, the state's tolerance had largely vanished. The few protests were quashed with arrests. The highest-profile critic of the regime was apprehended and

superficial. The thing as the P of popula' capabi' tion h

Boycotts

"If a boycott is intended to cripple the scientific enterprise of a nation or region, the history of both the anti-German and anti-Soviet boycotts show that when a country has a sizeable and dynamic scientific community (or sphere of influence), then detachment from global science is not especially impactful, at least in the short term."

[*Nature* 606, 27-29 \(2022\)](#)

See also: The boycott against German scientists and the German language after World War I

"Allied physicians replaced the "International Anti-Tuberculosis Association" founded in Berlin in 1902 with the "Union Internationale contre la Tuberculose"/ "International Union against Tuberculosis", founded in Paris in 1920."

[*Dtsch Med Wochenschr* 138\(51/52\), 2685-2690 \(2013\)](#)

IUPAP—a product of World War I

It has been generally recognized that the bringing together in friendly conference of representatives of science in many countries is one of the best ways of forwarding peaceful relations among the nations, U.N.E.S.C.O.'s chief target.

F. J. M. STRATTON General Secretary of the International Council of Scientific Unions, [1951 Phys. Bull. 2 1](#)

2022—IUPAP strives to let physicists continue to interact

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The IUPAP Executive Council

The Thirteen

1. Belgium
2. Canada
3. Denmark
4. France
5. Holland
6. Japan
7. Norway
8. Poland
9. Spain
10. Switzerland
11. United Kingdom
12. United States of America
13. Union of South Africa

The Ten

- W. Bragg, president
- M. Brillouin
- O.M. Corbino
- M. Knudsen
- M. Leblanc
- R.A. Millikan
- H. Nagaoka
- E. Van Aubel, vice-présidents
- H. Abraham, secretary

1922

Reaching out to Ukraine



International Union of Pure and Applied Physics

01 April 2022

Professor Anatoly Zagorodny
President of the National Academy of Sciences
Kiyv
Ukraine
Email: azagorodny@bitp.kiev.ua

Dear Professor Anatoly Zagorodny:

Ukrainian membership of the IUPAP

I am delighted to inform you that Ukraine has been admitted as member of the IUPAP, with the Ukrainian National Academy of Science as the Adhering Body. Please see signed MoU. This is at ZERO cost for a three-year period given the extremely difficult circumstances that Ukraine is in at this time. We will revisit this cost arrangement at the end of 2024 to discuss the funding of Ukrainian membership for subsequent years.

On behalf of the IUPAP, I would like to welcome you to the Union, and wish you a productive engagement with the Union for very many years to come.

I would like to take this opportunity to wish you and the citizens of Ukraine a rapid return to peace and security in your country. IUPAP will endeavor to assist and support the plight of the scientists in your country as best as we can. Our thoughts are with you.

Sincerely,

A handwritten signature in black ink, appearing to read 'M Spiro', written over a white background.

Prof Michel Spiro
President IUPAP

Women in physics (WG5 established in 1999)

Was probably much needed ...



IUPAP General Assembly in London 1954

IUPAP International Conference on Women in Physics

The screenshot shows the INSPIRE HEP search interface. The search query is 'iupap women in physics' under the 'conferences' category. The results are sorted by 'Date ascending' and show 7 results. The left sidebar contains filters for 'Start Date' (Upcoming conferences), 'Series' (ICWIP: 7), and 'Subject' (other: 4).

| Conference Title | Date | Location | Contributions |
|---|-------------------|---|-----------------|
| 1st IUPAP International Conference on Women in Physics (ICWIP 2002) | 7-9 March 2002 | Paris, France (C02-03-07) | 0 |
| 2nd IUPAP International Conference on Women in Physics (ICWIP 2005) | 23-25 May 2005 | Rio de Janeiro, Brazil (C05-05-23.12) | 0 |
| 3rd IUPAP International Conference on Women in Physics (ICWIP 2008) | 8-10 October 2008 | Sofitel Ambassador Hotel, Seoul, Korea, Republic of (C08-10-08.3) | 0 |
| 4th IUPAP International Conference on Women in Physics (ICWIP 2011) | 5-8 April 2011 | Stellenbosch, Western Cape, South Africa (C11-04-05) | 1 contribution |
| 5th IUPAP International Conference on Women in Physics (ICWIP 2014) | 5-8 August 2014 | Wilfrid Laurier University - Waterloo, Canada (C14-08-05) | 4 contributions |
| 6th IUPAP International Conference on Women in Physics (ICWIP 2017) | 16-20 July 2017 | Birmingham, United Kingdom (C17-07-16.2) | 6 contributions |
| 7th IUPAP International Conference on Women in Physics (ICWIP 2021) | 11-16 July 2021 | Online Conference, Australia (C21-07-11.2) | 0 |



Physicists attending the GA held at Basel 23–28 September 1966

**Schweizerisches Komitee der Internationalen Union
für reine und angewandte Physik
(IUPAP International Union of Pure and Applied Physics)**

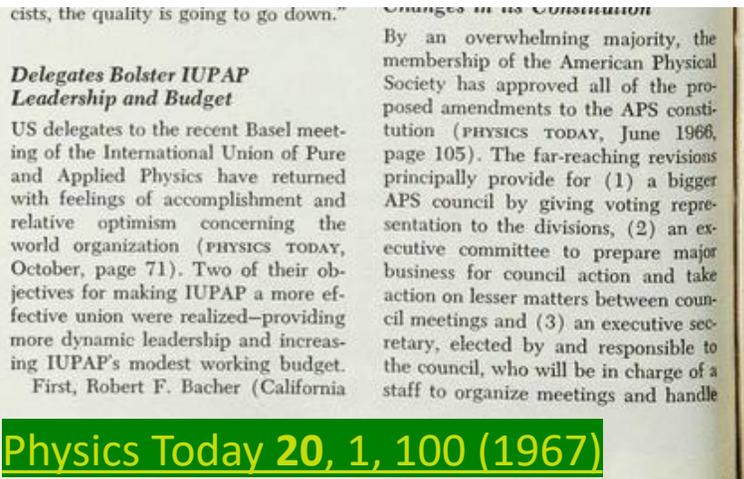
1966 findet in Basel die XII. Generalversammlung der Internationalen Union für reine und angewandte Physik statt. Die Vorbereitungsarbeiten werden von einem Komitee, das der Unterzeichnete präsidiert, geleitet.

Der Präsident: Prof. Dr. P. Huber

Verh. Schweiz. Naturforsch. Ges. Bd. 146 (1966) 127



Delegates bolster IUPAP leadership and budget



Physics Today 20, 1, 100 (1967)



Delegates visiting CERN

Report on the General Assembly of IUPAP Basle, September 1966

Periodic table—“a scientific cold war” IUPAC and IUPAP hand in hand?

- Elements with $Z \geq 103$
 - An attempt was made to resolve “a cold war dispute”, between scientists at Berkeley in the USA and Dubna in the USSR, by an international group set up in 1974 by IUPAC and IUPAP.
- Transfermium Working Group (TWG)
 - The report of the Transfermium Working Group (TWG) “Discovery of the Transfermium Elements” is riddled with errors of omission
[Prog. Part. Nucl. Phys. 31, 233-237 \(1993\)](#)
- Discovery of superheavy elements beyond $Z = 112$
 - Strong language: “... *The validation of new elements should be done by people who have the relevant competence—the physicists.*”
[EPJ Web Conf. 131 06004 \(2016\)](#)

IUPAP today

- Swiss association
 - IUPAP decided at its general assembly in 2021 to establish a Swiss association, in the meaning of Articles 60 et seq. of the Swiss Civil Code
- IUPAP's seat is located in the Canton of Geneva
- IUPAP's administrative office is located in Trieste, Italy
 - Hosted by Fondazione Internazionale Trieste per il Progresso e la Libertà delle Scienze
- Since 2021 IUPAP welcomes corporate associate members
 - Thanks in advance for suggesting this option to the physics related Swiss industry



IYBSSD2022

International Year
of Basic Sciences
for Sustainable Development

Opening ceremony 8th July



[Join the centenary symposium 11–13 July](#)