Entering the New Century of IUPAP with a Renovated Vision

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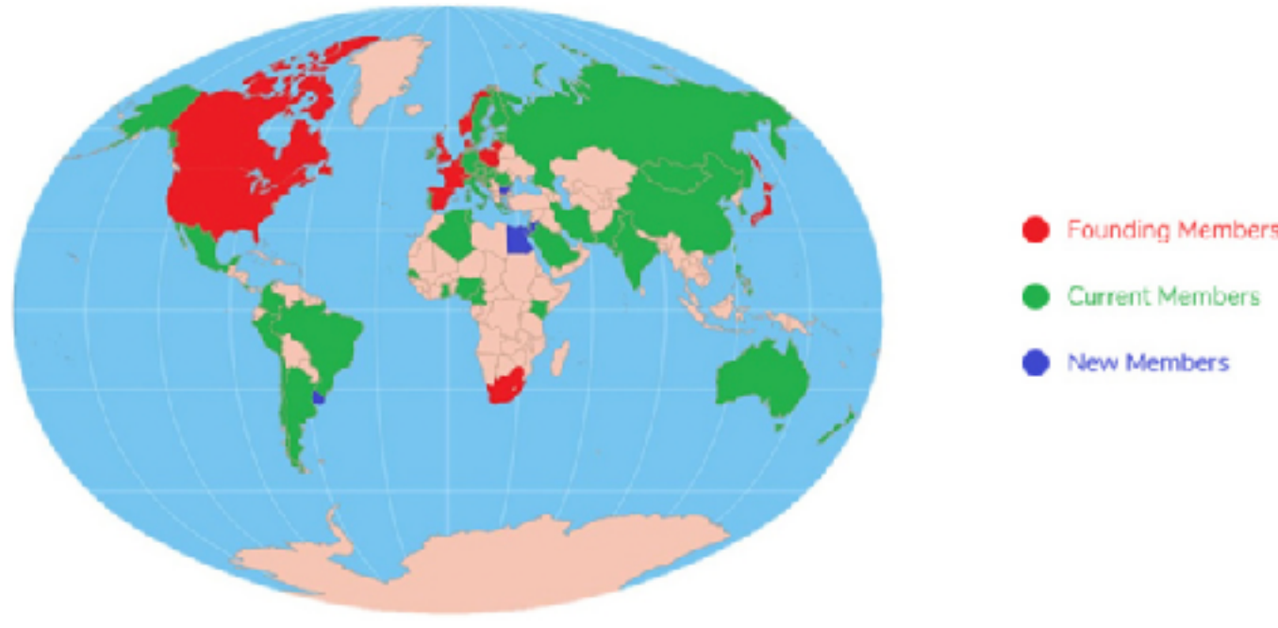
What's new?

Before discussing the future, let us talk a bit more about the past and the present

The beginnings: Created in **1922** with **13 country members**: Belgium, Canada, Denmark, France, Holland, Japan, Norway, Poland, Spain, Switzerland, UK, USA, Union of South Africa.

Now (map: GA2021)*:* ~60 territorial members from all over the world



Great cultural diversity

Needs dialogue, attentive listening, clear procedures, negotiation, TIME

Article in Nature Phys, 2022, on IUPAP:
(its) *activities primarily manifest via a complicated structure* […] *the emphasis seems to remain on processes rather than outcomes.*

Article (continued): *Nevertheless, there is undoubtedly still a place for such a union in the modern world, and much that it can achieve.*

Science diplomacy in one of the traditional activities of IUPAP

Definition of Symbols, Units and Nomenclature: the first report of the SUN commission was released in 1931, resolving on the definition of the joule, the calorie and various electromagnetic units.

Rephrased from “Attempting neutrality: Disciplinary and national politics in a Cold War scientific controversy” by Ann E. Robinson, Centaurus 2020: *During the Cold War, there were three laboratories that were able to synthesize elements. One in the USA (LBL), one in the Soviet Union (JINR) and one in West Germany. The discovery of new elements at the time had a political impact: scientific accomplishments that manifested national and global power. The IUPAC and the IUPAP had to be sensitive to their disciplinary and national constituents, and to the larger geopolitical milieu of the Cold War.*

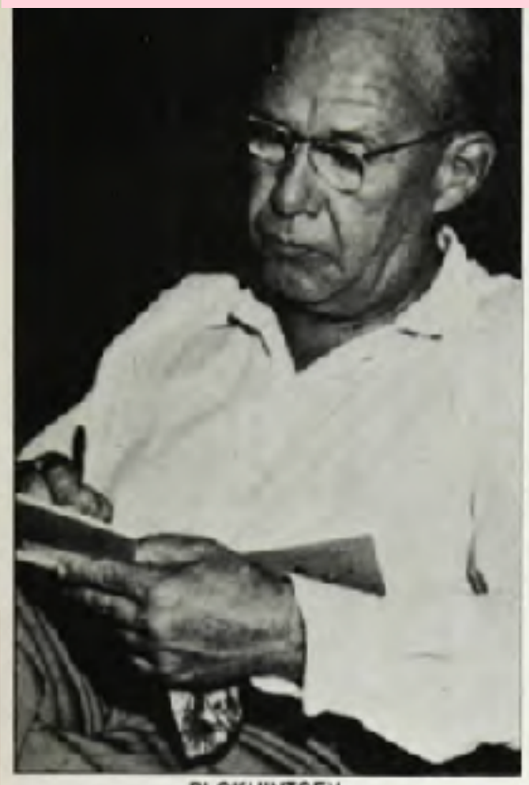
IUPAP has a long tradition in science diplomacy, envisioning **science collaboration as a driver for peace.**

This was very relevant during the Cold War, promoting and helping with the **free circulation of scientists**

There were IUPAP presidents from the USSR (Blokhintsev, 1966-69) and Poland (Sosnowski, 1978-1981)

And now, with the situation in the Ukraine, we again followed our principle of facilitating collaborations across all borders.

Phys Today 32(7), 62–63 (1979)



BLOKHINTSEV

We are deeply committed to ensure that the interaction among physicists should continue even when relations between their countries' governments are strained.

In February 2022, the IUPAP produced a statement expressing the Union's consternation about the news on the Ukraine and the deepest sympathy with the people that were suffering because of it.

At the same time, reminding how the Union had strived to bring physicists together across political divides, the statement ended by reinforcing the idea that **scientific collaboration across the world is a driver for peace.**

In 2022 the IUPAP General Assembly unanimously voted in favor of incorporating **Ukraine** as **territorial member** (let me remind you that Russia is a territorial member of IUPAP too).

It was based on these views that we decided to allow people who felt excluded from participating in IUPAP-related conferences, workshops and meetings, due to their affiliation or country of origin, to request the use of IUPAP as their affiliation. To be able to use the **IUPAP affiliation** they are required to sign a declaration stating that they are not actively supporting war and that they are committed to democratic principles for the resolution of disagreements and conflicts.

How are territorial members represented in the IUPAP? How do they participate of its decisions?

About our current structure

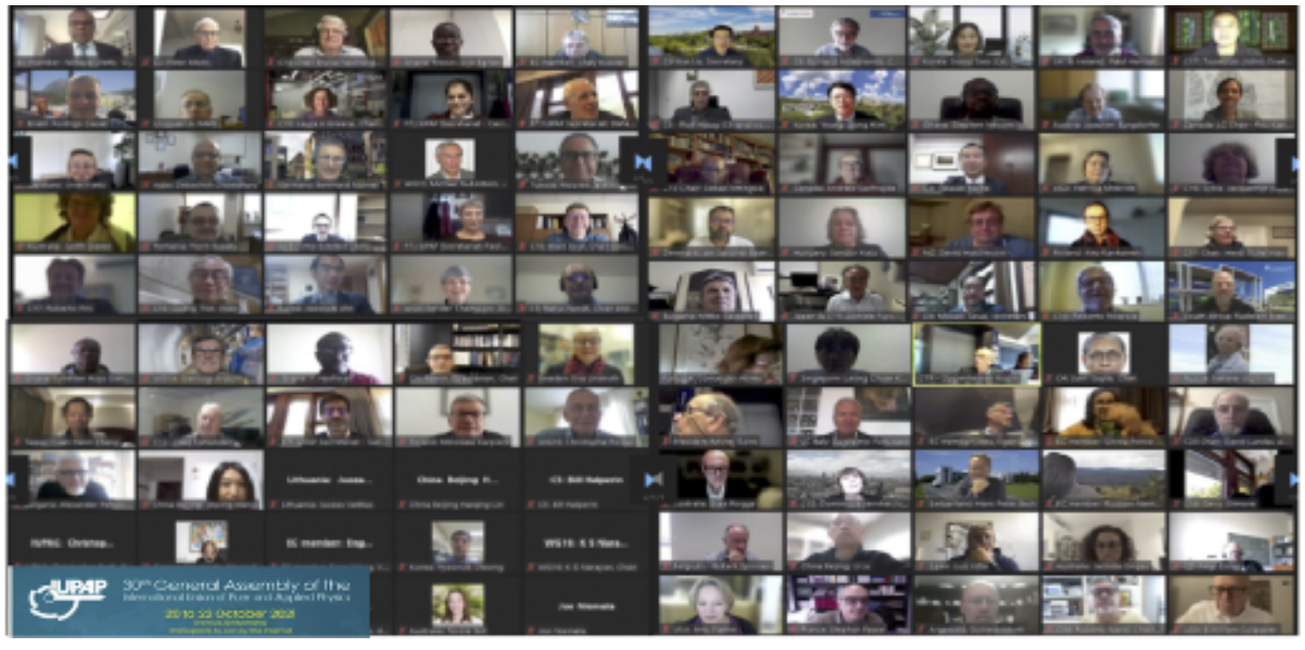
Main Governing body: General Assembly, with representatives of its members

It used to meet triennially, in person

Last in person GA in Sao Paulo, Brazil, in 2017

It now convenes yearly (in person every three years).

First experience with an online GA in October 2021.
We had another on July 14th , 2022.



Weighted voting system for territorial members that depends on the number of “units” they pay. Territorial members are represented by Liaison Committees.

Basically we are a network of networks, a network of communities

We don't have individual members

Liaison Committees (representing territorial members)
Have voting rights that depend on the # of units they pay

Who are the Liaison Committees?

General Assembly

How is it composed?

Official Observers
To strengthen our liaisons with **r**egional physical societies and other international scientific organizations.

Commission Chairs
Have voting rights

Corporate Associate Members
Don't have vote rights but pay units

It can be:
- National Academies of Sciences (typical of oldest IUPAP members)
- National Physical Societies

How do we relate with individual physicists?

This is a challenge: there might be too many layers between IUPAP and individual physicists

Very hard to reach out to physicists outside academic or research institutions (the Corp Associate Member category was created to increase these relations).

One of the main ways in which we relate with individual members of the physics communities is through the principal activities that are supervised/organized by Commissions and Working Groups: international conferences and awards.

IUPAP Commissions, almost all organized by physics subfields

- C1: Policy & Finance
- C2: 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: 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

Territorial members have a direct impact on the composition of commissions (balance: # of people from territory on commission ~ # of units paid by member)

C2-C20 decide on conferences and awards on the topics they cover. Each of them is associated with a large international conference (StatPhys, LT, etc.)

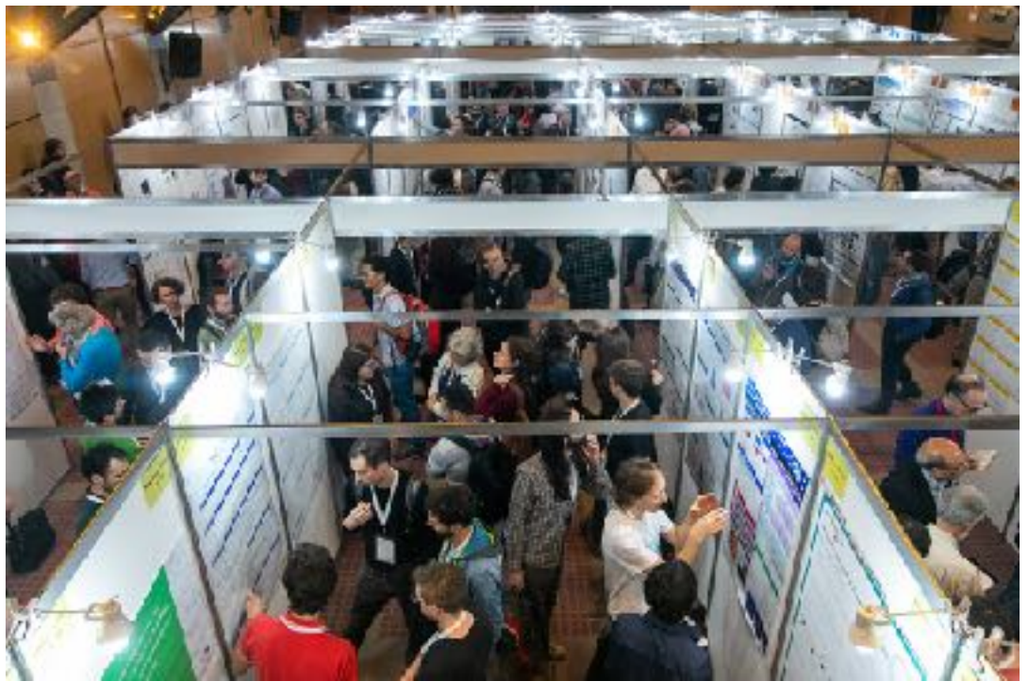
Example of one of the oldest commissions, C3: Statistical Physics

Established in 1945 to promote the exchange of information views among the members of the international scientific community in the general field of Statistical Physics.

14 members (5 women), each from a different country. Chair: Lucilla de Arcangelis, Italy; Vice–Chair: Doochul Kim, Rep of Korea; Secretary: Janos Kertesz, Hungary

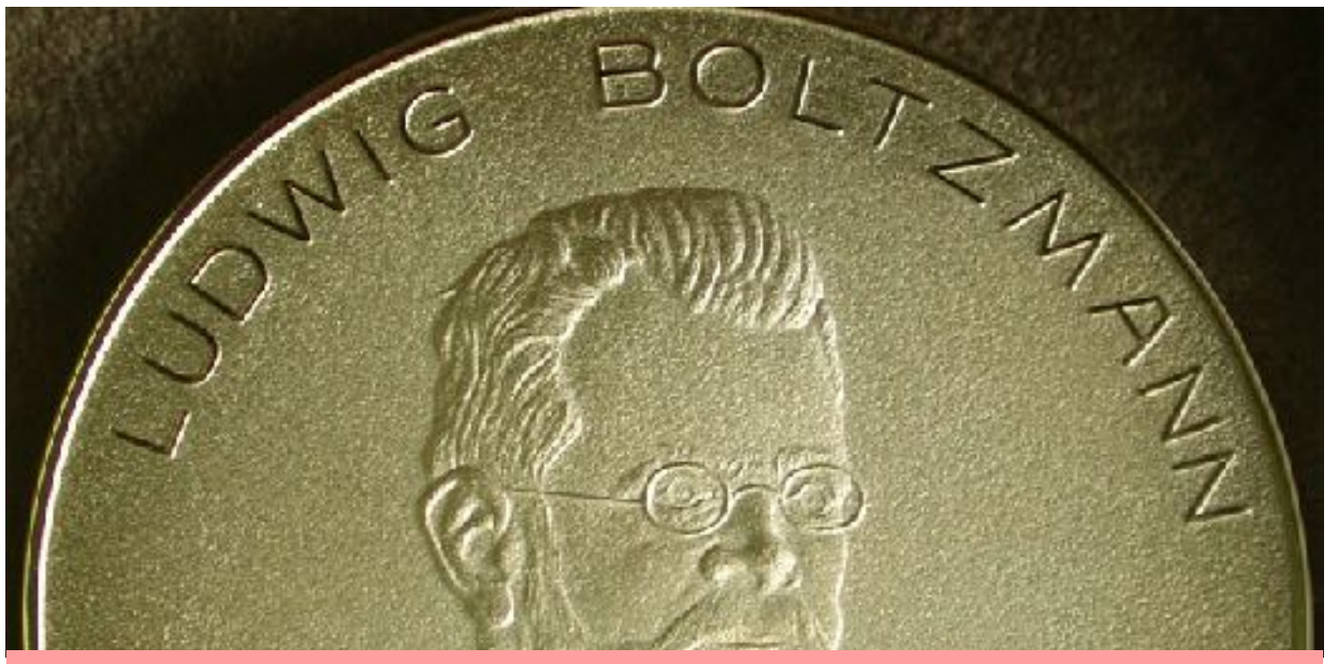
Images from StatPhys27, Buenos Aires 2019 (~750 participants)

It organizes triennially the largest conference on the subject, StatPhys.



StatPhys28 will be held in Tokyo, in August 2023

It also gives, triennially, the very prestigious Boltzmann Medal



Not a single woman medalist

And the Early Career Scientist Award in Statistical Physics

Year	STATPHYS#	Recipients
1975	12	*K. G. Wilson*
1977	13	R. Kubo
1980	14	R. J. Baxter
1983	15	M. E. Fisher
1986	16	D. Ruelle and Y. Sinai
1989	17	L. P. Kadanoff
1992	18	J. L. Lebowitz and *G. Parisi*
1995	.19	S. F. Edwards
1998	20	E. H. Lieb and B. Widom
2001	21	B. J. Alder and K. Kawasaki
2004	22	E. G. D. Cohen and H. E. Stanley
2007	23	K. Binder and G. Gallavotti
2010	24	J. Cardy and B. Derrida
2013	25	G. Jona-Lasinio and Harry L. Swinney
2016	26	Daan Frenkel and Yves Pomeau
2019	27	Herbert Spohn
2022	28	Deepak Dhar and John J. Hopfield

Photo by Claudio Esses, Statphys27

All these awards are presented at the StatPhys conference where the Boltzmann medalists give a plenary talk and the Early Career Scientists, an invited talk at a parallel session

Perhaps not all Commissions are so deeply intertwined with the structures of their communities, but, they are all a key component of how IUPAP relates to physicists (mostly from the academic/basic research world) here organized by physics subfields

IUPAP also has Affiliated Commissions: independent bodies whose field does not coincide with that of an IUPAP Commission (e.g., ICA, ICO, etc).

Commissions have some independence to organize and decide their activities. Not all of them give awards to recognized “senior” scientists. All of them give Early Career Scientist Awards, an IUPAP program that we are very proud of.

One Early Career Prize/year/Commission/Affiliated Commission. ~200 prizes awarded in last 10 years

Candidates must have at most 8 years of research experience after PhD (career interruptions excluded). There are no self-nominations. Package contains an **ethics** statement.

Commissions are required to guarantee **diversity** of the pool of candidates (reissue call if needed).

Awardees receive a monetary award + medal and are featured on IUPAP’s website and Newsletter. Some Commissions invite them to give talks at their events.

Some commissions make the call yearly, others make it once every three years. All calls are advertised at the IUPAP website, iupap.org. Please stay tuned!

Commissions also analyze applications for conference sponsorship and endorsement, which are then approved by the Executive Council.

Every year the call for the sponsorship of conferences to be held the following year is open in Jan-May. Approval is decided in October. There are 4 categories.

IUPAP sponsors and endorses ~50 conferences/year with special attention given to those held in developing countries. Visit iupap.org for more details!

Research is very dynamic. How do we keep up to date with new developments, etc?

# of Commissions has not stayed fixed over time (and some have changed name).

Usually, new subfields (potentially, for a new Commission) are contained within the fields of “old” Commissions. We then create a temporary structure, Working Group, to analyze the need of its creation, organize a conference, etc.

Examples: WGs on: **Soft Matter** (**WG15**, 2017) and **Quantum Science and Technology** (**WG19**, 2021). (Both proposed by the US Liaison Committee to IUPAP)

WG15 is organizing the first International Soft Matter Conference to be held outside Europe, ICSM2024 in Tokyo, Japan.

Soft matter overlaps with the fields covered by other commissions. How to combine acknowledging the relevance of emergent subfields without “emptying” well established/traditional ones? This creates tension and there is not a unique optimal solution. We expect to solve it through dialogue and debate (as done with the redefinition of sections for PRL).

The new WG on QS&T just started defining its composition. We expect it will be an active partner of all the activities related to the International Year of Quantum (we hope the UN will declare 2025 as IYQST).

With the leadership of Mexico, the UNESCO council has approved to take the initiative (which has the support of APS, SMF and IUPAP, among others) to the 41st General Conference of UNESCO.

The organization in commissions provides a “layered” structure that helps IUPAP distribute its work (which depends mainly on the pro bono work of many physicists) and connect more closely to physicists from all over the world.

41 CONFERENCIA GENERAL

UNESCO adopta iniciativa mexicana para que 2025 sea el año de la ciencia cuántica

• El Año Internacional de la Ciencia y Tecnología Cuántica fue propuesto por México y aprobada por unanimidad, señala en entrevista Juan José Bremer, representante permanente de México ante la UNESCO

Juan José Bremer y la doctora en Física Ana María Cetto, promotores de la iniciativa ante la UNESCO. Cortesía

A great deal of IUPAP’s efforts goes into community building (something intangible). Organizing a community that grows and diversifies its interests is not so easy.

Do we want to have ever more specialized commissions?

What about issues that are transversal to all physics subfields?

What about the current problems of concern for humanity that not only need to join efforts across physics subfields but also across disciplines and beyond?

So far IUPAP has used its current structure to advance transversal activities. We are discussing new ways to address these issues (planning to seek external advice). They are a core part of the new set of specific aims of the Union.

IUPAP's renovated set of aims:

- *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 underrepresented 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 and physics students**;*

- *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***

Inclusion and diversity

Many of the actions of IUPAP in this regard, so far, are related to gender inclusion. It started with the creation in 1999 of WG5, Women in Physics, with the mandate

-to survey the present situation and report to the Council and the liaison committees.
-to suggest means to improve the situation for women in physics.

WG5 in 2000 @White House.

This led to the establishment of a (still) very active network of WGs in more countries than IUPAP territorial members (especially, in developing countries). It is a successful story of community building.

Working Group, 2017

With Karen Hallberg @1st ICWIP presenting the data on Argentina

I started my relation with IUPAP as the leader of the Argentinian WG on WiP

The first actions of the WG marked its subsequent trajectory:

- network structure in terms of country teams (that report on their actions@ICWIPs)
- surveys (first for women only, then for all genders).
- International Conference on Women in Physics (ICWIP) which produce recommendations for various actors including IUPAP (it led to lots of changes!)

Then: -Travel Grants for early career physicists from developing countries (yearly)
-Communications (not so good: website, social networks)

ICWIPs are the main forum to exchange information on gender issues tailoring in cultural differences, to give tools for career advancement, to portray the research of women physicists and to establish (disciplinary or regional) networks and mentoring schemes. Attendance is by country team, with number limits so that all countries are equally represented. There are travel grants for less developed countries.

Paris, France, 2002

Rio de Janeiro, Brazil, 2005

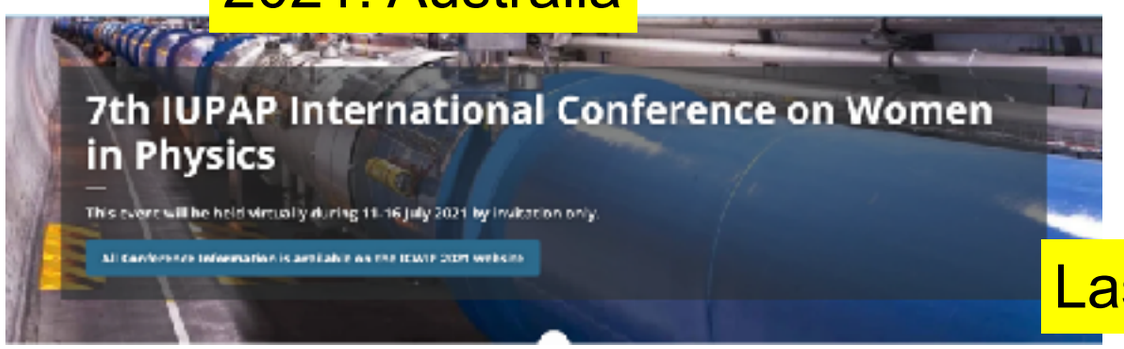
Seoul, South Korea, 2008

Birmingham, UK, 2017

Stellenbosch, South Africa, 2011

Waterloo, Canada, 2014

2021: Australia



Last 2 virtual

2023: India

Resolutions and recommendations submitted by WG helped reshape IUPAP

Having a VP at Large & Gender Champion (since 2011) further contributed to this

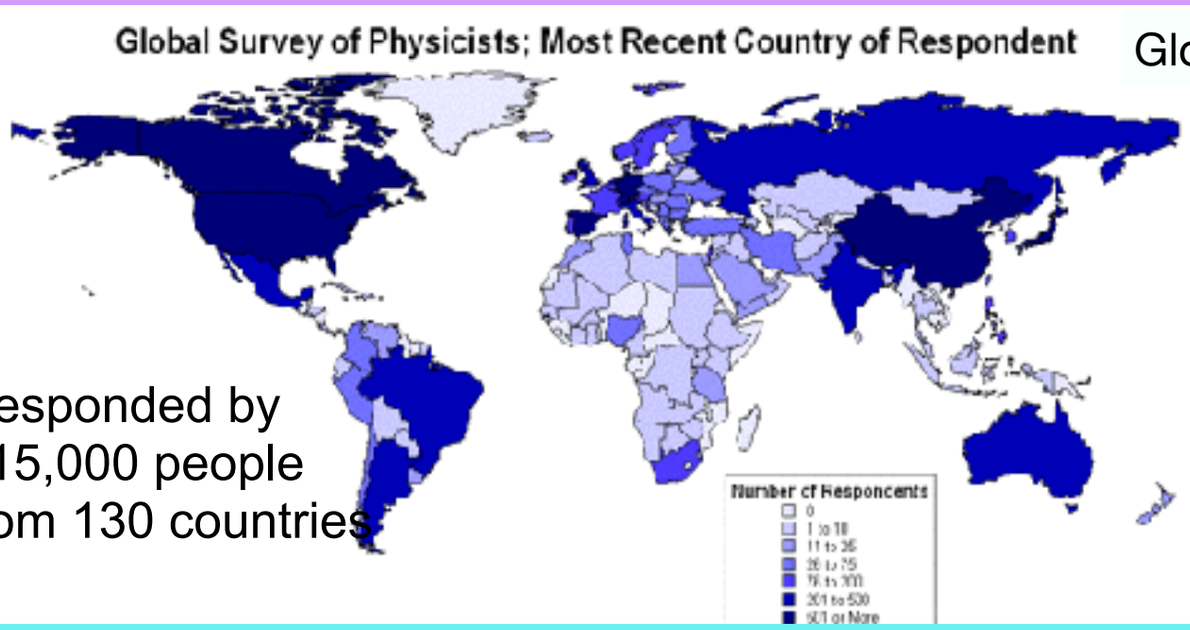
We now have: Rules for IUPAP's structures composition to increase their diversity

New rules for conferences: target % of women on committees, speakers, etc; anti-harasment policy; activity on inclusion and diversity at conferences.

Rules for awards to guarantee the diversity of the pool of candidates, to consider career interruptions for Early Career Prizes, to include ethics considerations.

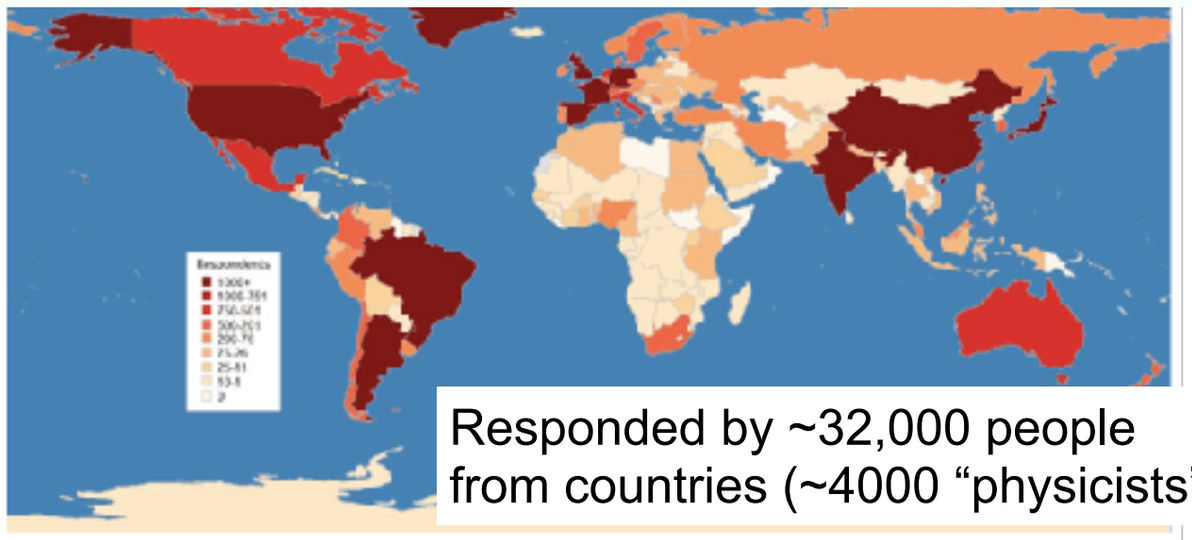
Waterloo Charter for Gender Inclusion and Diversity in Physics (with examples of possible actions to reduce the gender gap)

Efforts of the WG led to the collection of useful data to design/recommend policies



Responded by ~15,000 people from 130 countries

Global Survey of Scientists, part of the Gender Gap in STEM Project



Responded by ~32,000 people from countries (~4000 "physicists")

Both produced and analyzed by AIP Statistical Research Center (with input from WG and country team leaders the first one, the other with input from project participants).

Both showed that experiences of women are significantly less positive than of others

WG's activities had a huge impact on inter-union liaisons. The initial idea for the **Gender Gap in Science Project, https://gender-gap-in-science.org/**, grew out of the need to update our Global Survey.

The project was carried out with 10 other international partners, led by IMU and IUPAC, and was initially funded by ISC.

It had 3 tasks: the Global Survey of Scientists; an analysis of publication patterns; the elaboration of a database of good practices. IUPAP was in charge of the Global Survey of Scientists and actively participated in the others

The final report is available in the website

Standing Committee for Gender Equality in Science
SCGES

The Gender Gap in Science Project led to the creation of the Standing Committee for Gender Equality in Science, https://gender-equality-in-science.org/, of which IUPAP is founding partner

IUPAP's actions to increase gender inclusion and diversity had a huge impact in developing countries

E.g., one of the main activities of ICWIP inspired the organization, since 2013, of Career Development Workshops for Women in Physics @ICTP in Trieste, Italy, a hub for physics in the developing world.

WG5 had a huge impact in Latin America and the Caribbean: Many activities in the region grew out of the network established at ICWIPs

Career development workshops for scientists, engineers and science students with a gender perspective.

Puebla, 2014

Buenos Aires, 2016

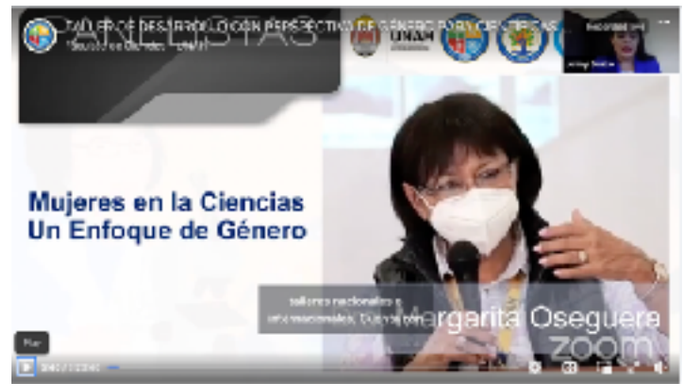
Bogotá, 2017

Lima, 2018

Sao Paulo, 2019

Santiago (virtual), 2020

Book



Honduras (hybrid), 2022

Interdisciplinary & inter-generational dialogue

ICTP SAIFR International Centre for Theoretical Physics South American Institute for Fundamental Research

2023/11: ICTP@SP!

WG5 first focused on actions to survey and improve the situation of women in physicis but then started to look at intersectionalities and gender more broadly.

Discussions have started on how to address gender diversity in a broader sense, respecting the large cultural differences of the international physics community.

In 2021 the mandate of WG5 was redefined to reflect better the activities that the group has been pursuing and the Gender Champion was tasked with analyzing the best ways to increase diversity in multiple dimensions, beyond gender.

We are now analyzing the creation of Working Groups on Accessibility and Ethnicity and of a Diversity Committee, an umbrella structure that would advise IUPAP and its members, chaired by the Gender Champion and with the Chairs of WG5 and of the two new WGs as members.

We are analyzing this option within our self and external evaluation processes.

Physics Education is another aspect that requires a transversal approach

We have a Commission on Physics Education (C14) created in 1960 to promote the exchange of information and views in the field

It regularly organizes an international conference on the subject, publishes a newsletter and, for the last 3 years, has produced a handbook of interest to physics teachers, teacher educators, education researchers, physicists, and policy makers

The barrier here to have an impact on science/physics teaching at elementary and/or secondary levels is language. Perhaps a similar structure as in WG5 could help.

Another transversal subject addressed by IUPAP is **Physics for development**

The Commission on Physics for Development (C13) created in 1981 to help improve the conditions of physics and physicists in developing countries, among other aims.

C13 bestows triennially the IUPAP Medal for Outstanding Contributions to the Enhancement of Physics in Developing Countries.

IUPAP has a special line of funding for conferences/workshops to be held in developing countries (Type D conferences) and rules on the composition of its structures to guarantee the participation of physicists from developing countries.

We are now analyzing the creation of a new type of membership (without voting rights) for territories with very small physics communities.

https://laamp.iucr.org/

IUPAP is also a partner in the:

Lightsources for Africa, the Americas, Asia, Middle East and Pacific Project, with IUCr and ICTP.

LAAAMP started in 2016 with an ISC grant awarded to IUPAP & IUCr for their project ***Utilization of Light Source and Crystallographic Sciences to Facilitate the Enhancement of Knowledge and Improve the Economic and Social Conditions in Targeted Regions of the World***.

LAAAMP's aim is to enhance Advanced Light Sources and crystallographic sciences in developing regions, helping build communities of users with training, site visits, etc.

We need to scale it up and extend the approach to other areas, including training for remote access of resources (as in the AFRAMED International Research Network).

Increasing or strengthening our relations with regional physical societies may also help us reach out better to the physics communities and potential corporate members and multiply the effect of our actions, particularly of those aimed at improving the conditions of physics and physicists in developing countries.

Several regional physics societies are observers of IUPAP and their representatives can attend our GAs and EC&CC meetings.

New ideas to expand this relation were mentioned at the panels on physics in 3 regions (Latin America and the Caribbean, Asia-Pacific and Africa and the Middle East) that we had at the Centenary Symposium in July 2022

Those ideas included having a more permanent scheme to share news (e.g., shared or featured articles on newsletters, following on social networks, etc)

Endorsing (or contributing to the definition of) collaborative projects across regions can also have great impact.

For example, IUPAP has submitted a letter of support for the African Strategy for Fundamental and Applied Physics (ASFAP) and is planning to do so as well with the Latin American Strategy for Fundamental Research Infrastructure (LAS4FRI).

Another step of impact that IUPAP has recently taken is to have incorporated the International Association of Physics Students as Affiliated Commission (AC5)

AC5 has actively participated in the Centenary Symposium and our last GA bringing new energy and ideas, such as that of the creation of a new WG on accessibility

IUPAP is helping with funds for some of the activities organized by Iaps such as the PLANCKS competition.

Then, in order to reach out to physicists outside academic or research institute and liaise as well with companies with interest in physics, we created the Associate Corporate member type which was approved by the 2021 GA and also, in 2017, the

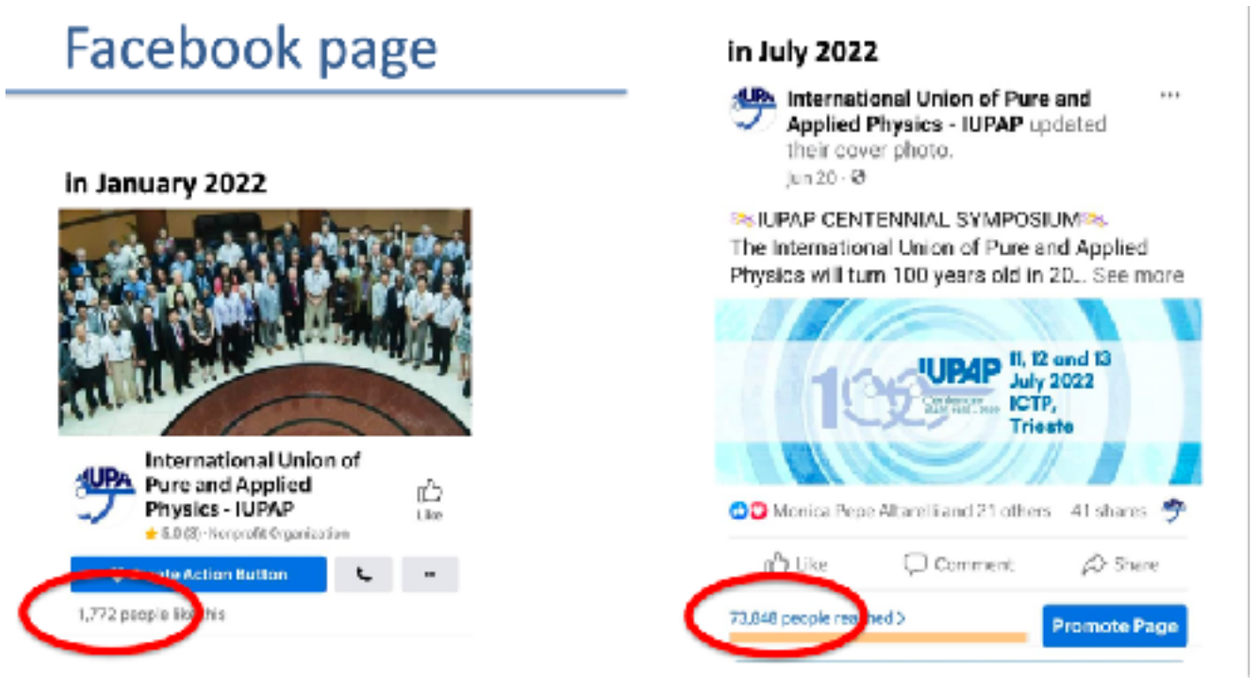
Working Group on Physics and Industry with the mission:

- To explore expanding the involvement of the Physics Community outside Academia, in particular Industry, towards activities of IUPAP
- Identify mechanisms for the involvement of Multinational Corporations, Small and Medium Size Companies and Startups.
- To co-organize/sponsor (in partnership with other commissions and WGs) suitable international meetings, workshops and prizes to advance with these aims

As you may notice IUPAP has been continuously increasing (or trying to increase) the number of actors with which it relates and collaborates.

A network with increasing links and nodes that needs an efficient communication

IUPAP is starting a new century of existence with a renovated presence online and a new communication scheme:



Stronger presence on social networks (Facebook and Twitter)

e-Newsletter

Please visit our website, https://iupap.org/, or send email to communication@iupap.org to learn more about these initiatives and subscribe to our newsletter.

December 2021:
last **printed** newsletter

March – June 2022 **e-newsletter!**

IUPAP as a network which is increasing its nodes and its links

I've also kept on talking about building communities, but *all of this, what for?*

-To help one another across generations establishing an international network of contacts that could help with career advancement.

-To share information and discuss future developments on:

- physics research, education, applications and resources;
- science practice, that should be inclusive and free of discrimination and misconduct. In this regard, IUPAP plays a role recommending sets of standards and best practices, respecting cultural diversity at the same time; imposing conditions on the activities it sponsors; through the example of its own functioning.

Having detected the need of a clear set of guidelines to address ethics related issues in 2021 we created the **Working Group on Ethics (WG18)** with the mission:

1. *To survey international ethics standards across societies, journals, and funding agencies, including hiring practices.*
2. *To consider these accumulated data to develop a set of international ethics standards.*

This mission will first be applied to traditional scientific misconduct. Then, will include standards to establish lines of actions to prevent harassment and sexual misconduct

But we don't want to look only inside our own community. We also want to relate to scientists with different backgrounds, to non-scientists, to policy makers.

Language can be a barrier for outreach activities for non-scientists. Via our territorial members or local organizers of conferences we could promote these activities.

We do have to “talk to non-scientists”. After all, part of IUPAP’s mission is to help in the application of physics toward **solving problems of concern to humanity**.

And also with scientists of varied expertise and backgrounds, since the most urgent problems faced by humanity, like climate change, not only call for the concerted action of all the population and the design and implementation of effective global policies but also require a **strong interdisciplinary approach**.

I’ve already talked about several interdisciplinary projects that IUPAP participated in together with other scientific unions. We also relate to other unions through the Official Observers scheme and by inviting their representatives to be associate members of the IUPAP Commissions that are closest to their fields.

We have recently established an **Interdisciplinary Early Career Scientist Award** to recognize the contributions of Early Career Scientists who do interdisciplinary research that does not fit within a single subfield of physics as covered by one IUPAP Commission. For the first issue that is now open through May 31st and which will award up to 2 prizes, the call is for candidates who do research that combines the subfields addressed by more than one IUPAP Commission, Affiliated Commission or Working Group. In the future we expect to incorporate some disciplines outside physics as well.

Please visit iupap.org for more information!

Another interdisciplinary project in which IUPAP has been playing a key role is the:

International Year of Basic Sciences for Sustainable Development
https://www.iybssd2022.org

Approved by UNESCO's Gen Conference in 2019, the year 2022 was declared Intl Year of Basic Sciences for Sustainable Development by the UN GA in 2021

This was the result of the mobilization of many organizations led by IUPAP.

May 24, Special Event at UN GA to discuss future directions

June 5, 1day Webinathon across the world (talks, challenges, etc).

Michel Spiro, at IYBSSD opening ceremony

Flagship event in Honduras (the country that presented the proposal of the IYBSSD declaration to the UN in 2021) on Open Science, a dear theme to IUPAP & IYBSSD

In 2022 IUPAP approved the creation of a WG on Open Science that, following the UNESCO, can establish guidelines to foster an open science culture in physics, survey current open science practices, produce a list of open science infrastructures, tools, and techniques and co-organize the IYBSSD event in Honduras.

In the words of UNESCO: Open science sets a new paradigm that integrates into the scientific enterprise practices for reproducibility, transparency, sharing and collaboration.

Another step we are taking to enter the debate on sustainability is the decision to create a Working Group on **Physics and the Green Economy**

We have been working on a draft version of its mission (not finalized yet) which includes:

- Establishing a strong bridge between physics and the broad international public on the topics of climate change, energy transition and green economy
- Suggesting and encouraging ways of incorporating Green Economy thinking in university curricula and research training
- Advising the Executive Council on actions to be taken, work to be done, statements to be issued
- Organizing at least one major conference on Physics and the Green Economy
- Liaising with Regional and National Physics Societies and with other Scientific Unions

How to establish a bridge between physics and the broad international public? This would require a very strong outreach program that could be established through a specific project. Another possibility would be to elaborate a set of recommendations for our territorial members to uptake.

How to help with the design of new policies? How to impact on decision making?

We might exert some effect at national levels through our territorial members

And at the regional level through our liaisons with regional organizations

At the international level, IUPAP could exert its influence through the International Science Council of which it is part

International Science Council

ISC is a NGO that brings together more than 200 international, national, and regional scientific unions, associations, and organizations in both the natural and social sciences, including research academies and councils.

The ISC works with the UN acting as organizing partner, together with the World Federation of Engineering Organizations (WFEO), of the Major Group “Scientific and Technological Community”. In this role, he seeks to integrate science into the main global policy processes, such as the implementation and monitoring of the 2030 Agenda.

I am part of the advisory board to the ISC focal point for Latin American and the Caribbean that was established in 2022

We try to participate in ISC’s activities and discussions

but we would like to be more directly involved in the global discussion of issues in which physics and physicists can make relevant contributions

One option could be to organize a series of inter-cultural debates on themes such as Artificial Intelligence (there are various ethical issues here that our WG should eventually address), climate change, clean energy, green economy, new job opportunities, etc, that could remain videotaped.

Some of the people that work to make these actions possible

Officers of the Executive Council (meet monthly via Zoom):

Michel Spiro, President

Bruce McKellar, Past President

Silvina Ponce Dawson, President Designate

Jens Vigen, Secretary General for Legal and Financial Affairs

Stefano Fantoni, Secretary General for Administrative Affairs

Sandro Scandolo, Deputy Secretary General for Administrative Affairs

Rudzani Nemutudi, Associate Secretary General

Boris Sharkov, Treasurer

Staff members: Gabriella Marra (secretary)

Francesca Zavino (communications)

Other members of the Executive Council: 4 Vice-Presidents Elected at Large + 5 Vice Presidents who are elected from the Chairs of Commissions

Monica Pepe-Altarelli, VP aL, Centenary, also meets monthly

Laura H. Greene, VP aL, Outreach & Ethics

Nithaya Chetty, VP aL, Membership

Gillian Butcher, VP aL & Gender Champion

Ani Aprahamian, C12. Nuclear Physics

Kuijuan Jin, C13. Physics for Development

Takaaki Kajita, C4. Astroparticle Physics

Tae Won Noh, C10. Structure & Dynamics of Condensed Matter

Tetyana Antimirova, C14. Physics Education

+ all other officers and members of Commissions and WGs

This is how IUPAP starts its new century

Promoting new (and not so new) themes

Diversity and inclusion

Physics for Development

Physics for sustainability

Interdiscipline

Physics Education

Science policy & diplomacy

Increasing the interaction with new communities

Students and early career physicists

Physics outside academia

Regional physics communities

Expanding its actions

Increased visibility

Outreach

New projects

without disregarding its more traditional activities

and without forgetting the pleasure that we get from unveiling the intricacies of the universe around us.

Carnal Knowledge, by Rebecca Elson

Having picked the final datum
From the universe
And fixed it in its column,
Named the causes of infinity,
Performed the calculus
Of the imaginary i, it seems

The body aches
To come too,
To the light,
Transmit the grace of gravity,
Express in its own algebra
The symmetries of awe and fear,
The shudder up the spine,
The knowing passing like a cool wind
That leaves the nape hairs leaping.

Rebecca Anne Wood Elson (1960–1999) was a Canadian–American astronomer and writer.

Silvina Ponce Dawson

IUPAP 100 Centenary YEARS 1922 - 2022

IYBSSD2022
International Year of Basic Sciences for Sustainable Development

Thank you!