

# Report IUPAP Membership

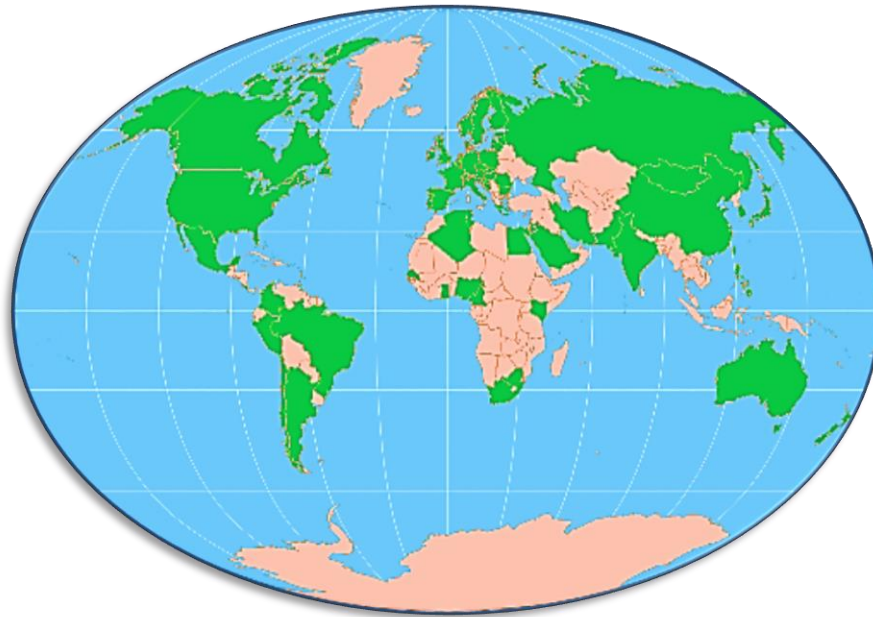
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## Introduction

IUPAP has a focused attention on those member nations who could be faltering in their commitment to the organization, and is reaching out to potentially new member countries with a view to attracting them to the IUPAP-fold. In so doing, driving membership is intimately connected with promoting the organization internationally, and keeping the world of physics informed about the roles that IUPAP is playing in strengthening the discipline of physics on a world-wide scale.

IUPAP has been advancing physics across international boundaries for almost 100 years. Today there are 57 member nations from around the world.



13 member nations in 1922 and 57 member nations in 2019

There are currently 56 members of the Union. Approximately 76.79% (43 members) are considered to be very secure, 7.14% (4 members) moderately secure and 16.07% (9 members) precarious in the membership of the Union, the latter being based on on-going challenges or perceptions of challenges with securing the necessary funds for retaining membership. Over the past decade, 14 members entered the Union and subsequently 5 of these members are precarious and 3 of these members exited; the Union following due process.

Recruiting new members is central for IUPAP's long term sustainability. Over the past year, Jordan and Uruguay have become members. Bulgaria has recently secured its government support to re-join. Egypt has re-joined after losing their membership at the most recent general assembly. IUPAP is working closely with the Ethiopian Physical Society of North American to secure a deal that will keep Ethiopia in

the IUPAP-fold. We are also having discussions with many other countries about the mutual benefits of joining. Scrutinizing the most productive physics nations who are currently not members is a useful way to guide this discussion and to target potentially new members (See physics rankings Sept19.xlsx).

### Publicity and communication

In order for IUPAP to work toward a step-increase in the number of member nations, there needs to be a sustained publicity and communication effort about the work of the IUPAP, not only to member countries but also to non-member countries. Scientists as well as scientific organisations, institutions, agencies and governments need to be targeted.

During the cold war, IUPAP was especially active in ensuring the free circulation of scientists despite the political divides that existed at that time. Today, the environment for science is very different. Our challenges for physics, and for science in general, in the 21st century are different from barely a generation ago. It will be important for IUPAP to help lead the conversation about the future of physics deep into the 21<sup>st</sup> century. This is an important opportunity for IUPAP to strengthen its international stature.

In engaging with potentially new members, it is important that we distinguish between two different perspectives, the first being the perspective of an individual member nation from their parochial point of view, and the second being the perspective of the Union itself from a global point of view.

### What are the benefits for individual membership?

This question looks at the local perspective, i.e. when you sit across a politician or senior official, you need to convince him/her from a parochial point of view why they need to join, and what are the special benefits that they can accrue for their own self-interest. Increasingly now, countries want to know very explicitly “what is in it for them”, rather than necessarily contributing to a global effort for a common good. This may be deemed to be a narrow point of view. Some of the relevant points in this conversation are:

- to be part of the world physics community represented by IUPAP and thus enable scientists to cooperate freely across political boundaries.
- to enable scientists to participate in decision-making that impacts physics on an international level in significant ways.
- to create an international platform where scientists can raise their voices and express their views on any matter that relates to physics and the practice of physics in this world, and in so doing help to propose solutions and action plans to address such matters.
- to have a fair representation in commissions which cover all the sub-disciplines of physics.
- to have a fair representation in commissions which cover other physics endeavours of general interest for every country, namely physics for development, physics and industry, physics education, physics for society, and so on.
- to participate in working groups and committees that are relevant to addressing some specific challenge facing physics in the world.

- to have links and networks with allied disciplines of physics through affiliated commissions and other allied international unions, and through IUPAP to be a part of ISC (the council of all scientific unions).
- A special attention will be given to host IUPAP conferences, meetings and events in new member countries.
- IUPAP can be active in supporting physics and science in countries as the need and circumstances demand (e.g. recent communications to Brazil, Argentina, Turkey).

### Why does IUPAP wish to expand its membership?

This question looks at the global perspective, and why the Union sees it beneficial to broaden its membership for the common good. I am very sure that the founders of the Union almost 100 years ago would have been primarily driven by this perspective: how can we be stronger as a community of physicists together than on our own. Some of the relevant points in this conversation are:

- there is a recognition that physics now has an even more important role to play in the developing world given the enormous economic disparities that have been created over the years.
- physics has made enormous strides over the 20th century, but the consequential modern technology has also had many negative and unintended consequences in society, and so physics being a leading science has a duty and a moral obligation to help address these societal challenges (which actually does involve social science as well, and this is an important area where we should converse with the newly merged ISC).
- there are many new global challenges that we face that threaten our very existence on Earth; physics has an important role to play in helping address these challenges.
- there is a sense that the world is becoming more fragmented, and IUPAP through global physics cooperation has an important role to reach across national boundaries and ensure the free circulation of scientists.
- IUPAP needs to broaden its global footprint to strengthen its position for scientific evidence-based decision making in the wake of grown anti-science rhetoric amongst many politicians.
- Invariably, increasing membership means more resources that enables IUPAP to do more with and for physics for the benefit of humanity.
- Recruiting new members is important for IUPAP's long term sustainability.

### Lessons learnt

Following a busy year driving IUPAP membership, there are a number of points that can be made based on lessons learnt.

Publicising and communicating the importance of the IUPAP agenda is everybody's responsibility, and every individual who is associated with the Union should take on this task. Having up-to-date publicity materials and current information is important for projecting IUPAP into the future.

The Centenary celebrations in 2022 provide an ideal opportunity for IUPAP to re-engage with its members and with the broad international physics community about IUPAP's global physics agenda. The International Year for Basic Sciences for Development in 2023 is also an important occasion to strengthen scientific cooperation especially with the developing world. We must involve our physics students more in the affairs of the Union as they are intimately connected with the future of the organization.

C13 and C14 are important commissions to help reach out to the developing world. WG5 is highly networked and can play an important role in broadening membership.

One must be very clear about what IUPAP can help deliver and what it cannot. There is a common misconception that IUPAP is a funding agency, for example, for bursaries and scholarships. One must present the case for IUPAP in an honest and clear way, and not raise unwanted expectations.

The Union must continue to be apolitical in its stance and closely aligned with democratic principles, openness, fairness, and commitment to equality and social justice. This is important and a necessary condition to enable us to reach out across political boundaries and to ensure the free circulation of scientists which are the corner stones of Union activity.

New members should be afforded the opportunity, without delay, to nominate members to commissions, working groups, etc., commensurate with their share and to propose the hosting of IUPAP-related meetings. Immediate benefits should be realizable in these instances.

There is an implicit understanding that the bigger physics countries will, through the IUPAP, help develop physics in the smaller physics countries. This is an important selling point for smaller physics countries to join the Union.

We have to be opportunistic, and grasp every little chance that comes our way to engage with scientists and government people about the virtues of joining. Our communications must be precise, and without delay. There is a need for strong administrative support. Timely communications and follow-up is essential to make optimal impact on potentially new members. One needs to recognize the importance of science diplomacy in working toward the goals of increasing membership. Inquiries about membership should be promptly responded to and actively followed up.