

## **Towards developing a strategy for attracting new members and preserving existing members**

subtitle: a decadal plan for membership (2019-2029)

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### Background

At its meeting held in Singapore on 03-04 May 2018, the IUPAP Executive Council resolved to develop a strategy regarding members which will be more proactive in attracting new members, and which will preserve existing members.

There are currently 56 members of the Union. Approximately 75% (42 members) are considered to be very secure, 3.5% (2 members) moderately secure and 21.5% (12 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, 11 members entered the Union and subsequently 3 of these members exited the Union following due process.

Driving new membership should not be seen in isolation as a separate endeavor, but as an intrinsic part of consolidating the current membership and ensuring that all current members benefit from membership and understand and appreciate the importance of being a part of the Union.

This initiative aims to explore policies, strategies, plans and interventions for preserving the current membership and attracting new members over the next decade, and will be presented at the C&CC meeting to be held in Vilnius, Lithuania 01-02 November 2018 for discussion and debate. Proposals emanating from this paper, suitably modified where appropriate, and other related decisions made at the meeting will form the basis for driving this initiative that should impact positively on Union membership over the next decade.

The Vice President - New Members shall work in close consultation with the President, the Past President, the President-elect, the Secretary General and the Secretariat to oversee the implementation. The actual work will be a shared responsibility requiring the collective efforts of the Council and Commission Chairs, and an increasing number of key individuals, for example, a selection of past Commission Chairs is seen as an important resource that must be tapped to help broaden the basis of support and work for the goals of this initiative.

## Strategic questions, policies, plans and interventions

### *1. How can IUPAP retain its current membership?*

A comprehensive survey should be undertaken of the membership to determine the satisfaction level of the current membership, to find out areas of perceived strength, areas of perceived weakness with suggestions for improvements, and suggestions for new directions of growth. This should be conducted soon, and the results should be reported at the next GA. This will be the basis for consolidating the current membership of the Union and strengthening membership satisfaction. This will also help with marketing the Union to potential new members. Such a survey is timely given the recent establishment of the merged International Science Council, and also the upcoming centenary celebrations. **(Action: President and President-elect)**

Some of the bigger physics countries should be approached to increase their shares in the Union. **(Action: President)**

### *2. What were the primary reasons for the countries leaving the Union over the past decade, and what lessons can be learnt from that?*

An analysis of this question should be undertaken. **(Action: Secretariat)**

An exit interview should be conducted and recorded if and when a member exits the Union. **(Action: Secretariat)**

### *3. What were the primary reasons for the countries joining the Union over the past decade, and how can this be used to attract new members?*

An analysis of these questions should be undertaken. **(Action: Secretariat)**

### *4. How secure are the members in the Union?*

In instances when recently<sup>1</sup> joined members are now in a precarious position or have recently exited the Union (the revolving door syndrome), what lessons can be learned so as not to repeat this problem into the future? Are there cases when enthusiasm (on the part of the member nation and/or the Council) for joining have outweighed the financial reality? **(Action: Council)**

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<sup>1</sup> Members who joined over the past decade.

Before a new member joins the Union, sufficient background checks must be conducted to ensure the commitment to funding for several cycles<sup>2</sup> into the future. It should be the policy of the Union that long-term commitment to the Union must outweigh any over-enthusiasm or zealotry on the part of the nation and/or the Council to join. **(Action: President)**

When all the necessary commitments have been made, the President or his/her designate should travel to meet with the senior leadership of the adhering body to sign a *Memorandum of Agreement*<sup>3</sup>. If sufficient financial commitments cannot be made at the highest levels of the adhering body, then the signing of the *MoA* should be delayed. **(Action: President)**

A template for a membership *Memorandum of Agreement* should be drafted for approval of the Council. **(Action: Secretariat)**

Member states that are considered moderately secure or precarious in the Union (see documents *New Members\_physics rankings*<sup>4</sup> and *Physics Global Overview*<sup>5</sup>) should be actively engaged with. The workload should be divided<sup>6</sup>. **(Action: President, President-elect, Past President, Vice President - New members)**

*5. Of the countries that are not members, which countries are more likely to look favorably toward membership of the Union? How should these countries be identified? Is there a rational basis for doing so?*

A detailed analysis of the physics outputs<sup>7</sup> and key indicators for success in physics of all countries (member nations as well as non-member nations) should be undertaken over the past decade. A comparative analysis should be done on a global scale as well as on a regional scale. This will help direct, on a rational basis, efforts to engage with countries about joining the Union. **(Action: Vice President – New members)**

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<sup>2</sup> A cycle is the period between general assemblies.

<sup>3</sup> The final approval of membership of the nation is ratified at the General Assembly.

<sup>4</sup> See <https://www.scimagojr.com/countryrank.php?area=3100>.

<sup>5</sup> Source: SciVal

<sup>6</sup> It is not productive if different individuals engage with the same country, as mixed messages and contradictions will inevitably arise.

<sup>7</sup> Number of physics publications, citation impact, number of physicists, etc.

Potential new members should be identified and engaged with (see documents New Members\_physics rankings and Physics Global Overview). The workload should be divided<sup>8</sup>. **(Action: Council, Commission Chairs and a selection of past Commission Chairs<sup>9</sup>)**

A special focus needs to be made on the developing countries and regions as there needs to be a better understanding of physics and its needs in regions that have historically been excluded. IUPAP should work closely with organizations such as the putative African Physical Society<sup>10</sup>, ASEAN Federation of Physical Societies, International Centre for Theoretical Physics, etc., to help drive IUPAP memberships. **(Action: Council and Commission Chairs)**

Unforeseen opportunities to engage with countries about joining the Union should be actively pursued at all times. **(Action: Council and Commission Chairs)**

#### *6. What attractors should be put in place for joining the Union?*

The cost for membership can, only under special circumstances and with approval of the President, be ramped up over a grace period of two to three years to the full cost as a part of the negotiations for joining the Union. This should only be done if appropriate guarantees are put in place that the new member will, after the aforementioned grace period, pay the full amount due. This dispensation shall only apply to the purchase of a single share. **(Action: President)**

New members should be afforded the opportunity, without delay, to nominate members to commissions, working groups, etc., on a basis that is commensurate with their share and to propose the hosting of IUPAP-related meetings. Immediate benefit should be realizable in these instances. **(Action: Council and Commission Chairs)**

The accomplishments<sup>11</sup> of the Union, including its history, should be widely marketed and communicated in a sustained manner, not only to member states, but broadly internationally through the website, newsletters, IUPAP-related meetings, etc. **(Action: Secretariat)**

Information for joining the Union with contact information should be prominently displayed on the website, newsletters and publicity materials. **(Action: Secretariat)**

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<sup>8</sup> Ideally, each individual should be assigned ONE country to work with.

<sup>9</sup> The selection of past Commission Chairs who are recruited to assist in this regard should be formally appointed to an IUPAP membership task team so that they are in an official position to represent the IUPAP in these deliberations.

<sup>10</sup> There are plans to resurrect the AfPS.

<sup>11</sup> See Commentary: International Union of Pure and Applied Physics and you, by Bruce H. J. McKellar, Physics Today, October (2017).

Standard and current information, including information for joining the Union, should be made readily available to all individuals who are in a position to speak on behalf of the Union at any appropriate public gathering, for example at commission conferences and workshops. A corresponding set of PowerPoint slides should be updated and circulated to the Council, all Commission members and all Working Group members on an annual basis. **(Action: Secretariat)**

The Union should continue to grow the participation of women in physics. This is an important opportunity for the Union as many countries, especially in the Developing World, are now beginning to take the scientific education and research training of women more seriously (you educate a woman, you educate a nation). **(Action: Council and Commission Chairs)**

### *7. What should the approach be toward developing nations and/or smaller physics nations?*

The mission and the goals must be clearly enunciated in public statements about the Union. Beyond scientific excellence, membership of the Union must be closely coupled with the development of physics and hence the development of the country. The International Year of Basics Sciences for Development affords a natural opportunity to strengthen the role of physics for development. Physics should be portrayed as the canary in the coal mine insofar as scientific development is concerned – when physics is weak, science and hence technology and development are weakened. The Union must continue to be apolitical in its stance and should be closely aligned with democratic principles, openness, fairness, and commitment to equality and social justice. The Union should also be sensitive to the de-colonizing debates that are emerging in many countries in the Developing World. **(Action: Council and Commission Chairs)**

The Union should be actively involved and should also be seen to be actively involved in developing physics in countries and regions where physics is not sufficiently strong. Union activities should include strengthening physics research and collaborations in a sustained manner, enhancing mobility, driving education, interacting with governments, meeting with funding organizations, engaging with society and facilitating industrial cooperation. These activities should be a pre-requisite to engaging with these countries and regions about joining the Union. **(Action: Council, C13, C14, and all other commissions in general)**

The Union should take the lead in supporting and actively working with the Regional Offices on areas of common interest. **(Action: President)**

The option of two or three countries in a geographical region sharing a single share should be explored. This dispensation shall only apply to the purchase of a single share. **(Action: Council and Commission Chairs)**

A 50% discounted price for a single share should be afforded to countries listed on the United Nations list of Least Developed Countries and/or physics nations that are deemed to being small, for approval by the General Assembly. This dispensation shall only apply to the purchase of a single share. **(Action: Council)**

There should be an implicit understanding that the bigger physics countries will, through the IUPAP, help develop physics in the smaller physics countries through cross-subsidization and cross-fertilization. **(Action: Council and Commission Chairs)**

*8. What are the optimal ways of engaging with potential new members? What are the different lines of sight to potential new member countries?*

There are multiple players within a single member country (rank and file scientists, influential or leading scientists, agency personnel who usually control the budgets, and government people, with mainstream society also playing a role). Those individuals<sup>12</sup> who will be acting on behalf of the Union with regard to membership matters need to find a way to engage with members and potential new members at multiple levels within the member country to ensure their long-term commitment. Many different countries manage science differently, for instance in some countries decisions around membership are made at the level of the government, whilst in other countries rank-and-file scientists and leading scientists have the potential to petition their authorities to join. In some cases, the officials with budgets take their cue from their scientific leadership, but in other instances they make the decisions themselves. Therefore, IUPAP must adopt a nuanced approach for each member and each potential new member. What might work in one part of the world might not necessarily work as effectively in another (no one-size-fits-all).

A useful way to engage with the governments of various potential member countries is to arrange to meet with the science attachés at embassies or high commissions. This has largely been an untapped potential and is the least costly means of beginning the conversations with high-level people. Traveling to the potential member country to meet with key people should be considered when circumstances permit, but only after sufficient advanced work has been done.

One needs to recognize the importance of science diplomacy in working toward the goals of increasing membership. Communications and engagements need to be undertaken with utmost care. Inquiries about membership should be promptly responded to and actively followed up. Just the right amount of pressure should be applied ... not too much, but not too little either.

The newly formed International Science Council must play an influential role in broadening its global footprint for the benefit of all the unions. **(Action: Council)**

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<sup>12</sup> Council and Commission Chairs as well as a selection of past Commission Chairs

A standard letter, which may be suitably modified, should be made available to all individuals who are in a position to formally explore, on behalf of the Union, the possibility of attracting a new member. **(see Appendix 1)**

## Final remarks

If we are confident in satisfying the needs of our current members, we will have a strong basis for reaching out to potential new members. IUPAP should manage its membership on a case-by-case basis where membership ebbs and flows naturally as the circumstances change for individual countries. The Developing World is an important expansion area for the Union. The Union must be seen to be doing more now to reap the long-term benefits of new members from the Developing World.

Bringing in more young people into the activities and the affairs of the Union is an important way to ensure its long-term future.

Political cycles are short and people in positions of power move on. But what changes on a slower time scale is the body of scientists, and in here lies some hope: IUPAP must continue to keep the body of scientists of non-member countries strongly coupled to IUPAP activities in the hope and anticipation that their adhering bodies can eventually come around to prioritizing funds for membership.

## Appendix 1: Suggested letter of invitation for new members

Date

Prof XXX  
Affiliation  
Country

Dear Prof XXX,

Thank you for expressing an interest in XXX joining the International Union of Pure and Applied Physics (IUPAP). I am pleased to invite XXX to become a member of IUPAP.

It is very important that activities in physics in every country are visible to physicists worldwide. IUPAP through its conferences, workshops and the participation of countries in commissions and the General Assembly gives ways for each country to make itself and its physics visible around the world.

For this reason, IUPAP is keen to enlist new members. We would very much appreciate a letter of application from XXX to become a member. This letter should be addressed to me and specify the number of shares you wish to have, specify the adhering body and should identify the person with whom we should correspond on scientific matters and the person to whom subscription notices should be sent. Applications for membership are ratified by the General Assembly on the recommendation of the Executive Council.

Having explained how to join, let me also tell you a little about how IUPAP works.

IUPAP is a Union of associations representing physicists in about 60 countries. In different countries, the adhering bodies are national academies, physical societies, universities, research institutions or government bodies. The Union has as its 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.

Its annual budget of approximately 500 000 EUR is entirely provided by the subscriptions of its members. Each member subscribes to between 1 and 18 shares, and in 2018 the subscription for each share is 2 276 EUR. You should expect the rate to increase by about 3% per year. The adhering body is responsible for the payment of the subscription. The number of shares held by each member, and the number of votes it has at a General Assembly is available on our website at <http://iupap.org/about-us/history-of-membership/>

IUPAP is governed by its triennial General Assembly, at which each member has votes determined by its number of shares: 1 share gives 1 vote, 2 to 3 shares give 2 votes, 4 to 6 shares



give 3 votes, 7 to 9 shares give 4 votes, 10 to 15 shares give 5 votes and 16 to 18 shares give 6 votes. Between General Assemblies the business of the Union is carried out by the 15 members of the Executive Council.

IUPAP carries out its mission by sponsoring international meetings and communications; encouraging research and education; fostering the free circulation of scientists; promoting international agreements on symbols, units and standards; assisting in capacity building in less developed countries and making sure that physics plays a role in their development and cooperating with other organizations on interdisciplinary problems

Its work is carried out through its 18 sub disciplinary commissions and its 10 working groups. IUPAP members expect to have a number of members of commissions equal to their number of shares.

Members of IUPAP receive preference when they bid to host an IUPAP conference or workshop. The next round of these bids, for conferences and workshops in 2020 will close in mid-2019. Should you become a member, it may be possible to consider late applications.

Commissions award annual IUPAP prizes for Young Scientists in their sub disciplines and other prizes for outstanding achievements, increasing the international recognition of both the Young Scientists and their home countries. As a member, you receive up-to-date information of the opening of nominations for these prizes.

For your information I attach our most recent newsletter. You can find out more about IUPAP and its activities from our website [iupap.org](http://iupap.org), where you can also locate earlier newsletters.

If you have any questions, please contact me by email: XXX, phone: XXX, or Skype: XXX.

Sincerely yours

XXX

Official IUPAP position  
International Union of Pure and Applied Physics

cc: Kennedy Reed, President  
Michel Spiro, President-elect  
Bruce McKellar, Past President  
KK Phua, Secretary General  
Nithaya Chetty, Vice President at Large for New Members  
IUPAP Office