Possible new IUPAP Commissions









Fluid Physics

This proposal was sent informally in 2021. At the time we contacted the International Union of Theoretical and Applied Mechanics (IUTAM).

A few months ago, Silvina had a Zoom meeting with the president of IUTAM where they discussed options to strengthen the relationship between both Unions. IUTAM involves not only physicists, but also mathematicians and engineers. Most physicists related to IUTAM do research in the physics of fluids (e.g., its current president, Jacques Magnaudet, Fluid Mechanics Institute of Toulouse (IMFT) at the University of Toulouse, France). .

One possibility: have IUTAM as AC.

Another possibility: create a Commission on Fluid Physics and Physics for Climate or something similar where we can bring people who do research on the application of physics to study climate related issues, including climate change.

The latter could be related to the reorganization of WG21.

Several aspects of the physics of fluids are included among the themes covered by C3, Statistical Physics and, possibly, C20. We should hear from them.

I don’t know if we will be able to bring a concrete proposal for the IUPAP GA in 2027.

Quantum Technologies

We have been discussing this for a quite while now.

In 2021 we approved the creation of WG19 on Quantum Science and Technology. We subsequently appointed Shohini Ghose as its Chair. WG19 worked between 2022 and 2023 and issued the recommendation of creating a Commission on Quantum Science and Technology.

The IUPAP GA in 2024 voted a renovated mandate for WG19 which included, among other things, to liaise with the Chairs of the Commissions in subfields which include QST to advance the creation of the new commission without disrupting the existing ones.

Renovated mandate of WG19 voted by the IUPAP GA in 2024:

- To coordinate the participation of IUPAP in IYQ2025 together with the Chairs of IUPAP Commissions on fields related to those of this International Year.
- To collaborate with WG16 on Physics and Industry to liaise with and engage companies with interest in Quantum Science and Technology in the activities related to IYQ2025.
- To consider the external and internal evaluation reports and, based on their recommendations, design, together with the Chairs of IUPAP Commissions on fields related to those of IYQ2025, a roadmap to advance with the creation of a Commission on Quantum Science and Technology and the organization of an International Conference on the subject. The proposed roadmap should be presented to the 34th IUPAP General Assembly to be held in 2025

In 2025, Shohini Ghose resigned as Chair of WG19 and nobody in the group wanted to replace her.

Jaewook Ahn (Chair of C15, AMO) volunteered to lead the discussion with his fellow chairs. As a result, a group of CCs analyzed the situation and issued the recommendation to create a Commission on Quantum Technologies. At the same time, WG19 was dissolved by the IUPAP GA in 2025.

Given the current tensions that affect international scientific cooperation, particularly in the area of QST (considered strategic), we ran a survey asking an informal opinion from IUPAP territorial members on the creation of such commission.

We received input from 5 physical societies, all of them positive. Some of them had recommendations. We also received a very detailed proposal from a specialist in the subject.

We have enough material and support to advance with the creation. Possible steps:

1. Ask IUPAP members to submit proposals for the Chair of the Commission (should we also include Vice-Chair and Secretary?) by the end of Jan 2027.
2. Select designated Chair, request support from IUPAP members (in March).
3. Invite IUPAP members to submit proposals of Commission members (as for the rest of the Commissions) to be voted by the GA in 2027.