



2024 • 2033

International Decade of
Sciences for Sustainable
Development



IUPAP and IDSSD Proposals

EC&CC meeting January 2025

I. Gledhill, M. Spiro, N. Chetty

1. Inter-Union activities

- Consider a **strategic report** uniting relevant Unions
- Choose an SDG that is relevant and viable for IUPAP
 - Sustainable energy, SGD 7?



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1. Inter-Union activities

- Consider a **strategic report** uniting relevant Unions
- Choose an SDG that is relevant and viable for IUPAP
 - Sustainable energy, SGD 7?
- IUPAP's unique role: discovery and innovation through physics
 - In scope for energy: the future of fusion and superconductivity
- Collaborate with related Unions
 - e.g. SCOPE, Scientific Committee on Problems of the Environment; IUPAC, energy storage
- consider expectations very carefully
 - on what kind of report(s) or material would provide useful resources?
- Seek project support?



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2. Build on the Inter-Commission Symposium format



The poster features the IUPAP logo at the top left. Below it, the title reads "IUPAP Inter-Commission Symposium Physics research for a sustainable planet". The main text discusses the challenges of a sustainable planet and the need for interdisciplinary collaboration. It mentions the event dates as "Afternoons of 12 and 13 October 2024" in Hainan, China, and virtual. The event is co-organized by C19 and WG21, with co-chairs Prof. Nithaya Chetty, Prof. Pietro Ubertini, Prof. Li Lu, Prof. Igle Gledhill, and Prof. Xiaoyan Shen. Logos for the Earth-Humanity Coalition, IUPAP Commission C19, and the Chinese Physical Society are at the bottom.

IUPAP

IUPAP Inter-Commission Symposium
Physics research for a sustainable planet

facing the major challenges that endanger earth as we know it

Humankind faces major challenges that endanger our future and civilization as we know it. Global challenges for humanity include sustainable development and global warming, energy, natural resources, pollution, clean water and the uncontrolled development of artificial intelligence. Solving these problems requires scientific researchers, politicians and decision makers to talk and to listen to each other and needs scientists to raise public awareness.

It also requires scientists to learn how to clearly explain their science in a way that can be understood by non-experts. We live in an interconnected world where complex problems can only be solved in interdisciplinary collaborations and addressing these problems from very different angles. Scientists should therefore learn to think out of their own narrow field and interact with other communities. IUPAP has an enormous potential to play a leading role in such an enterprise. Its diversity from biophysics to nuclear and astrophysics covers all major branches of physics. Run by the physics community itself, it is independent and free. Each community might not have much impact. But if all branches get together and speak with one voice, it could make a major difference.

Afternoons of 12 and 13 October 2024
Hainan China and virtual

An event co-organised by C19 and WG21
Co-chairs: Prof. Nithaya Chetty, Prof. Pietro Ubertini
Organising Committee:
Prof. Li Lu, Prof. Igle Gledhill, Prof. Xiaoyan Shen

THE EARTH-HUMANITY COALITION
IUPAP Commission C19
105th Anniversary of the Chinese Physical Society
中国物理学会

2024: “Physics Research for a Sustainable Planet”

- **2025, 2026: online symposia**
- **Precursors to major conference**
- **Strong involvement of Commissions and Working Groups**
 - how their work contributes to sustainable development, and climate change action
 - Contribute to defining IUPAP’s position
- In series with the virtual General Assemblies



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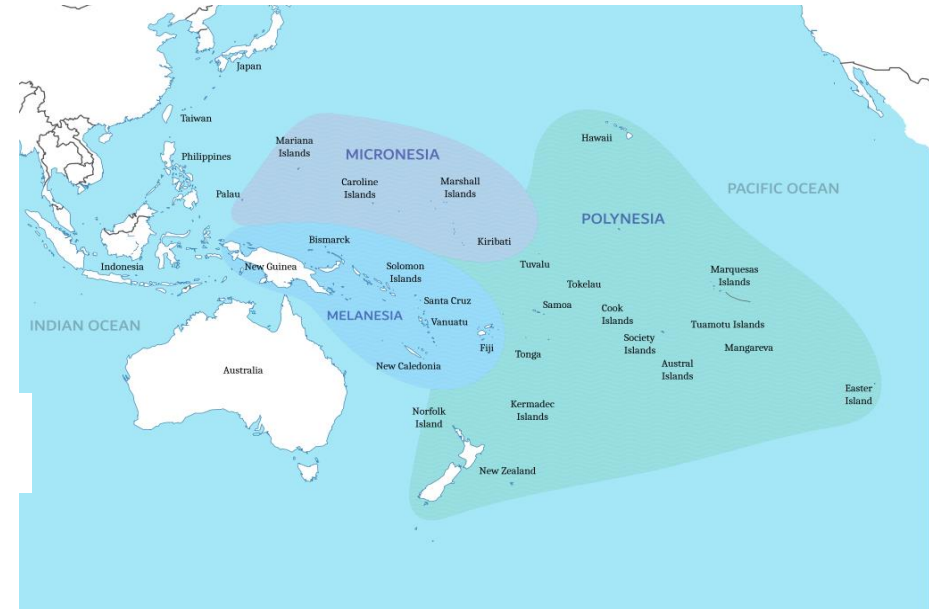


3. Major IUPAP conference in climate change action and Regenerative Development

- 2027
- Host to be chosen
- Deadline for expression of interest 10 Jan 2025
- Hybrid format
- Accessible to developing countries
- *Regenerative*:
 - *Sustainable* can include inequitable
 - not only slowing degradation, but reversing degeneration
 - more systemic approach



4. Regional development and regeneration



- 2027 **Southern African Physics Network SAPHysNet**: proposal to host **IUPAP GA** and **Conference on Physics for Climate Change Action and Regenerative Development**

<https://zanzibareducationpanel.blogspot.com/2019/01/historical-background-of-southern.html>

- 2025 A **Sustainability-oriented** conference in the Pacific region in the first half of 2025: proposal in progress

By Edmund1234 - Original sourced from:
https://commons.wikimedia.org/wiki/File:Pacific_Culture_Areas.svg, CC BY-SA 4.0,
<https://commons.wikimedia.org/w/index.php?curid=148457632>

- To be continued in IDSSD



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5. WG21: Climate change action and sustainable development

1. Defining document what the role of physics is and should be in climate change action and sustainable/regenerative development
 - brief and to the point; issues and actions
 - useful in inter-Union liaisons
2. Evidence-based communication strategy: done
 - 2025: establish communication with physicists, learn best practice
3. Physics curricula
4. Advise executive
 - statements
5. Ongoing IDSSD planning



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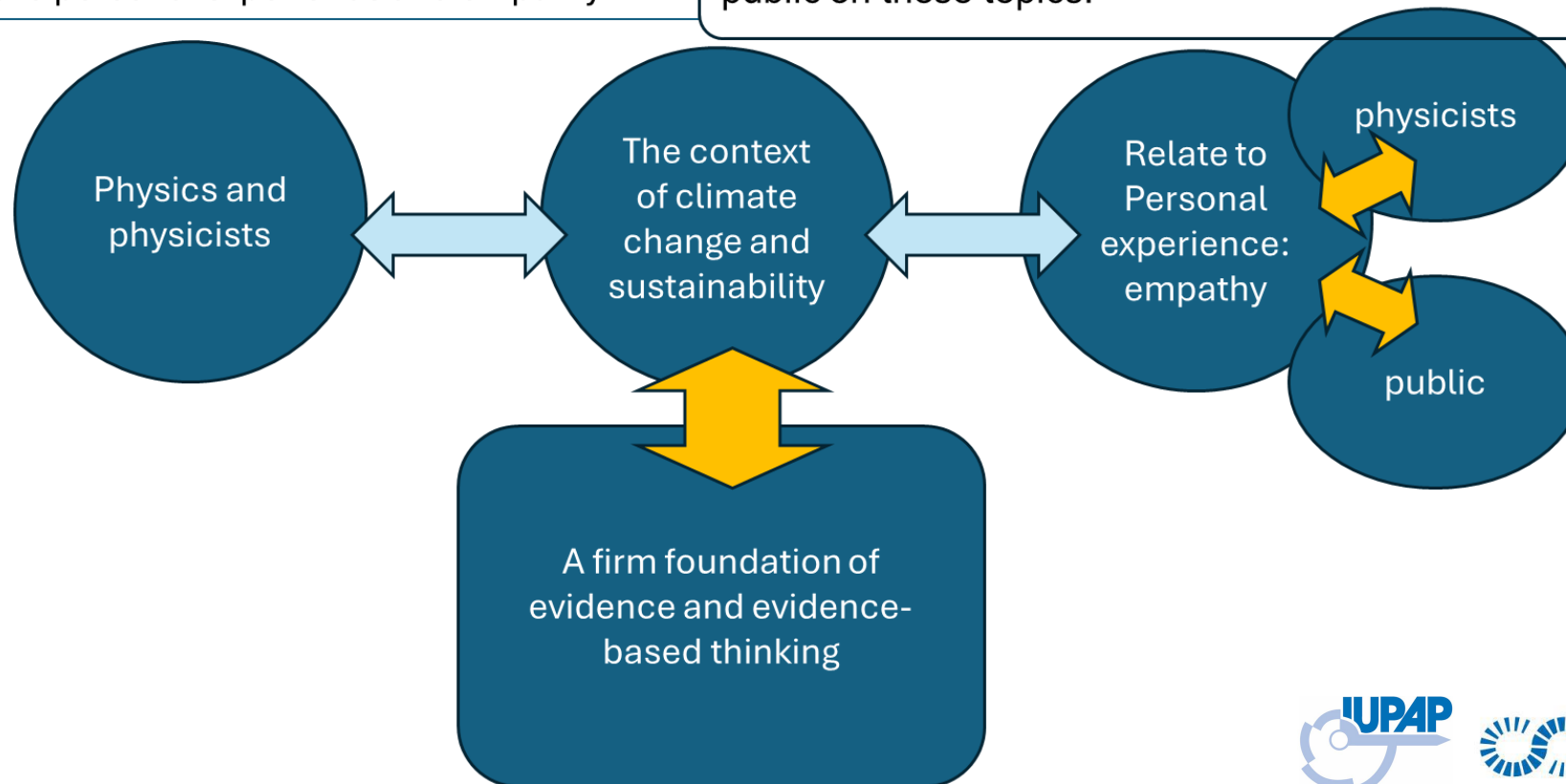


example: Communication strategy (from WG21)

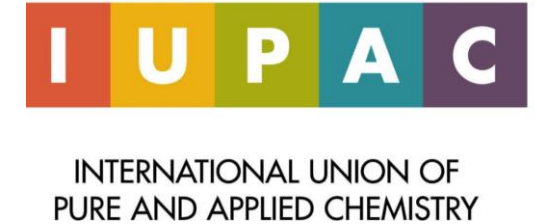
How can WG21 address these tasks?:
Communicate with (1) physicists, (2) sectors of public, by understanding the context, based on a firm foundation of evidence, and relating the narrative to personal experience and empathy

Entrench an evidence-based approach to responses to climate change studies and the energy transition process in close collaboration with experts from other disciplines.

Establish a strong bridge with the broad international public on these topics.



Unions: Possibilities...think widely



INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODÉSIQUE ET GÉOPHYSIQUE INTERNATIONALE

**International Union of Materials
Research Societies (IUMRS)**



International Commission on Illumination
Commission Internationale de l'Eclairage
Internationale Beleuchtungskommission

