



6 **ICTP**
1964-2024

An International Hub for Advanced Science



IAEA

International Atomic Energy Agency



The Abdus Salam

**International Centre
for Theoretical Physics**



unesco

United Nations
Educational, Scientific
and Cultural Organization

ICTP's unique mission rests on three pillars:

- › **Excellence** at the frontiers of science
- › **Global inclusion** for scientific resources
- › **International cooperation** through science



400+ Scientists work at ICTP from almost **100 countries**

Since 1970,

190,000+

scientific visits from

188

countries around the world.

In 2023

32%

women scientists

65%

from developing countries

Every year

6,000+

visiting scientists

~60

high level conferences

*Contributions to many breakthroughs including **5 Nobel Prizes.***

ICTP is a unique international research organization dedicated to making advanced science globally available overcoming the barriers of **gender, ethnicity, geography, economics**



This fundamental mission of ICTP now needs a **newer articulation and newer modes of implementation**

Relevance of ICTP

New realities with new nuances that we must consider

1. Greater need to emphasize the essential unity of pure and applied science to the public and policy makers.
2. Greater need to ensure equitable opportunities in the ongoing technological and scientific revolution.
3. Greater need to ensure essential global participation to address global challenges like Climate Change.

The Future of Computing and Quantum Science

The modern Scientific Method
now has **Computation** as an important new pillar.

Theory

Computation

Experiment

Growing knowledge divide when it comes to use of
modern algorithms or tools like GPUs, Artificial Intelligence
or Quantum Computing.

**An obligation for ICTP is to find the means
to make these critical resources for science globally available.**

International Consortium for Scientific Computing

Open Science in the coming decade must include
Open Access to Computational Resources
Open Codes for High Performance Computing
Open Weights of AI algorithms

For **Scientific Computing** (not for self-driving cars)

An **International Consortium** (not a local institute) to realize this
goal with **global partnerships**

Global Science for Climate and Energy

- › ICTP has the mandate and the convening power as a UN organization for holding multilateral international meetings. For example, Monsoon Workshop where climate scientists from China, India, Pakistan can come together.
- › ICTP must help create strong scientific communities in Global South well-versed in the modern tools and modeling.

This is an essential precondition for meaningful participation in decision-making of those most affected.

International Consortium for Future Earth

- › Effective climate response requires not only high science but also meaningful participation of the Global South.
- › It is essential to create a global community well-versed in the new tools also for down-stream applications.

*ICTP is a unique organization that **can and should** play a major role building on its global network and scientific strengths.*