



International Union of Pure and Applied Physics



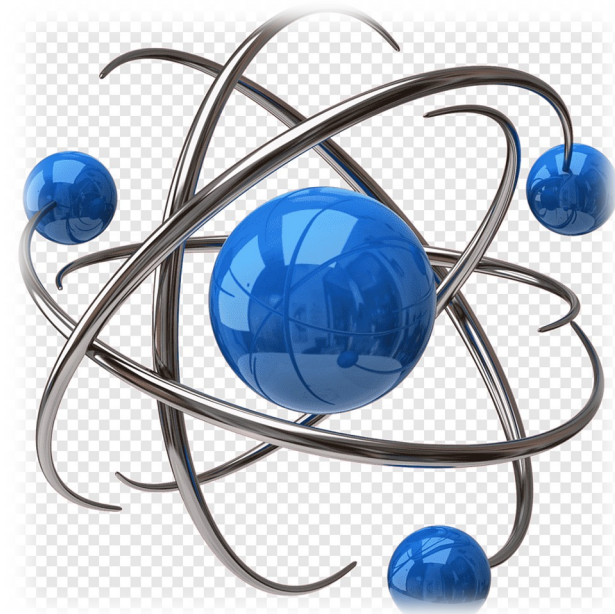
C12: COMMISSION ON NUCLEAR PHYSICS

A. Aprahamian
Chair of C-12

Report to Working Group 9, TRIUMF, **June 21, 2024**

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.



2022-2023:

IUPAP – International Year of Basic Sciences for Development

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United Nations for 2025

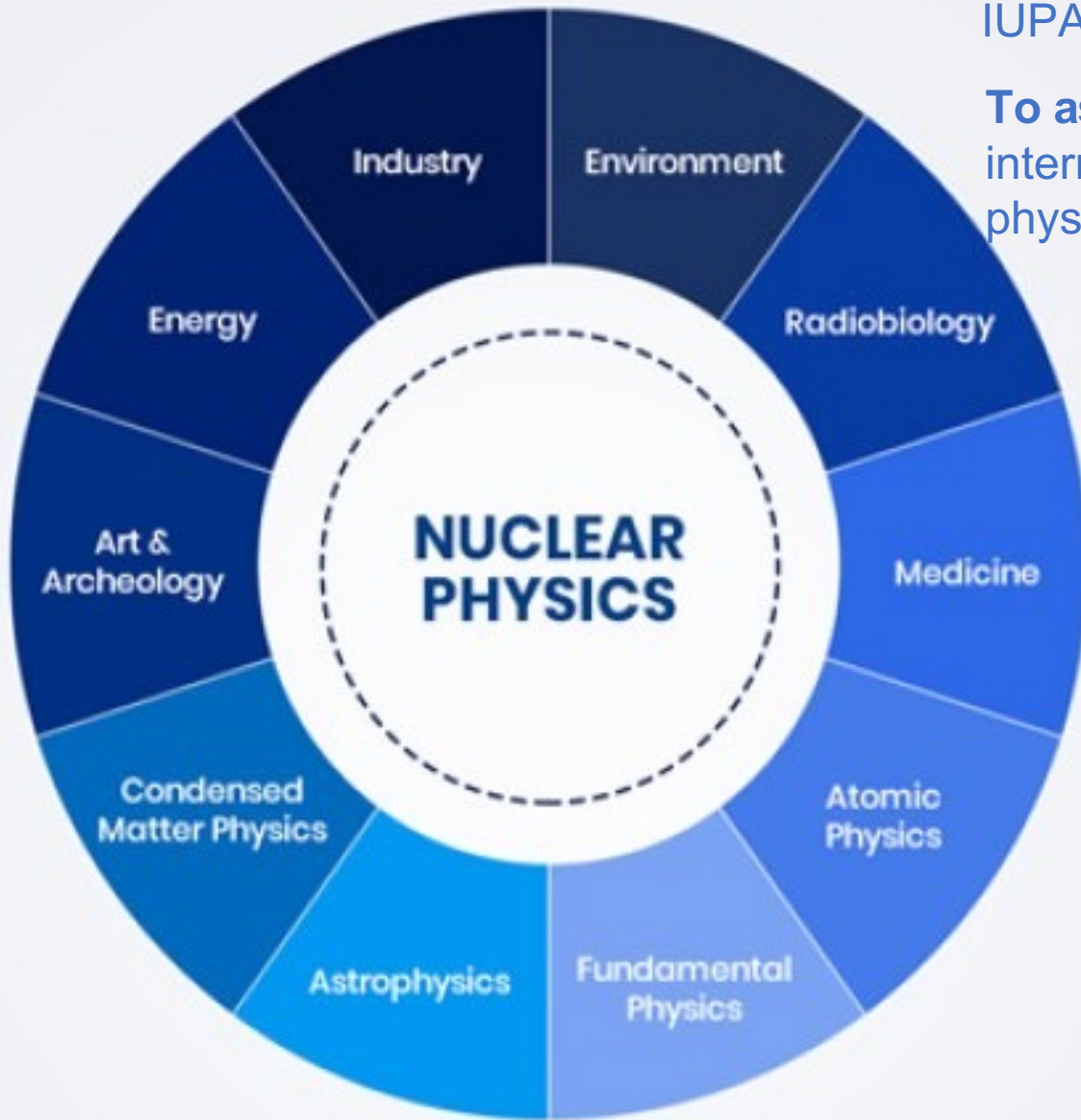


**INTERNATIONAL YEAR OF
Quantum Science
and Technology**

100 years of quantum is just the beginning...

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C-12 is one of 20 commissions

WG9: INTERNATIONAL COOPERATION IN NUCLEAR PHYSICS (ICNP)

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Working Group 9 (WG9) on **International Cooperation in Nuclear Physics** (ICNP) was established by the **International Union of Pure and Applied Physics** (IUPAP) on the recommendation of the **IUPAP Commission on Nuclear Physics, C12**, in 2003 with a mandate to look at the key issues in Nuclear Physics.”

IUPAP Report 41

A Worldwide Perspective of Research And Research Facilities
in Nuclear Physics by the IUPAP Working Group 9

33RD GENERAL ASSEMBLY

The 33rd IUPAP General Assembly of Liaison Chairs and Commission Chairs will be an in-person event, scheduled to take place in Hainan, China, **in October 2024**.

The initial nominations of members for Commissions are made by the Liaison Committees of Territorial Members.

They are urged to complete their nominations before 1st June 2024.
The closing date for these nominations is 14th June 2024.

Liaison Committees may, with a closing date of **7th August 2024**, make nominations for members of the Executive Council.

C12: COMMISSION ON NUCLEAR PHYSICS

Members:

D. Bettoni (Italy)
I. Dillmann (Canada)
F. Farget (France)
M. Gaidarov (Bulgaria)
I. Grigorenko (Russia)
T. Johansson (Sweden)
A. Mackova (Czech Republic)
N. Tomofumi (Japan)
M. Wiedeking (South Africa)
Y. Ye (China)
J. H. Yoon (Korea)

Officers:

A. Aprahamian (Chair, USA)
M. Borges (V. Chair, Spain)
E. Wiedmann (Secretary, Austria)

Associate Members:

M. Azwindinni (**C-11**, South Africa)
C.L. Cheng (**C-6**, Taiwan)
J. Yokoyama (**C-19**, Japan)

Mission/Mandate

1. To promote the **exchange of information** and views among the members of the international scientific community in the general field of Nuclear Physics including:
 1. The properties and characteristics of the atomic nucleus and its constituents;
 2. The interaction of atomic nuclei with other nuclei, with particles and with radiation;
 3. The apparatus and technologies used in nuclear investigations;
 4. The applications of nuclear physics to technology.
- 2.* To recommend for Union sponsorship international conferences which qualify for support under Union regulations.
- 3.* To promote the free circulation of scientists; to assist conference organizers in ensuring such free circulation and in resolving potential infringements.
 4. To organize where feasible the award of medals or other testimonials of excellence in its field.
 5. To publish where feasible newsletters, circulars, occasional books, journals or handbooks in its area.
6. To maintain liaison with other IUPAP Commissions, with the Commissions or Committees of other Unions or of the International Council of Scientific Unions (ICSU) or other scientific organizations, with a view to collaborating and cooperating in sponsoring joint conferences and to participating in joint projects when need arises.
7. To make available to each General Assembly of the Union a summary of activities and progress in its field since the previous Assembly.

C-12 responsibilities

Conference Sponsorship: On recommendation from C12 IUPAP supports international conferences within the field of nuclear science.

Young Scientist Prize in Nuclear Physics: The IUPAP YSP in Nuclear Physics is awarded every third year. Typically around 30 nominations are evaluated each time. The award ceremony of the prize winners takes place at the International Nuclear Physics Conference, INPC, the largest and broadest in scope in nuclear physics.

Elements of the Periodic Table: When claims for the discovery of a new element of the Periodic Table is being put forward it is the task of IUPAP and IUPAC to validate the claims. To this end a document was produced in 2017: "IUPAC and IUPAP Procedures for Validating Claims for the Discovery of New Elements and Naming those Elements". It was realised that the criteria and rules that are to be followed in the validation procedure also were in need of a revision. A group of scientists, the Joint Working Group, with C12 participation, were appointed by the two unions to undertake that revision. The report was published in the journal Pure and Applied Chemistry in 2018.



INPC2022
Cape Town, South Africa

11 – 16 SEPTEMBER 2022
CAPE TOWN INTERNATIONAL
CONVENTION CENTRE

**Young investigator
Awards**

**International Nuclear Physics
Conference**



iNPC2022

Cape Town, South Africa

International Nuclear Physics Conference
Cape Town, South Africa

471 attendees came from 37 countries (100 from south Africa)
512 abstracts (excluding plenary speakers) were submitted
(with a large imbalance in favour of nuclear structure)

C-12 Commission on Nuclear Physics

2023: Avignon, France, June 3, 2023



2023: South American Associations asked for help

LASNPA XIV/2024

Latin American Symposium on
Nuclear Physics and Applications

Facultad de Ciencias, UNAM / June 17 - 21 - 2024



Instituto de
Ciencias
Nucleares
UNAM



IF
Instituto de Física
UNAM



ININ



smf
SOCIEDAD MEXICANA DE FÍSICA

INPC 2025

May 25-30, 2025
Daejeon, Korea



Conferences:

Endorsement of C-12

Refused IUPAP Endorsement Violation: Free circulation of scientists

Name of IUPAP Commission

C12. Nuclear Physics

Conference title

Onset of Deconfinement and Critical Point

Location

Baku, Azerbaijan

Start date

24/10/2022

End Date

28/10/2022

Name of organiser/contact person

Dr. Anar Rustamov

Phone number

+49 152 06665650

Email

a.rustamov@cern.ch

Conference Website

<https://indico.cern.ch/event/985460/>

Mailing Address

a.rustamov@cern.ch
[Map It](#)

Number of expected participants

150

Have you submitted information to the Liaison Committee of the host country?

No

Science Brings Nations Together

IUPAP Conference **"Heaviest nuclei and atoms"**

Apr 25, 2023, 12:00 AM → Apr 30, 2023

National Academy of Sciences of the Republic of Armenia



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IUPAP International Conference
“Heaviest Nuclei and Atoms”

Apr.25-30, 2023
Yerevan, Armenia

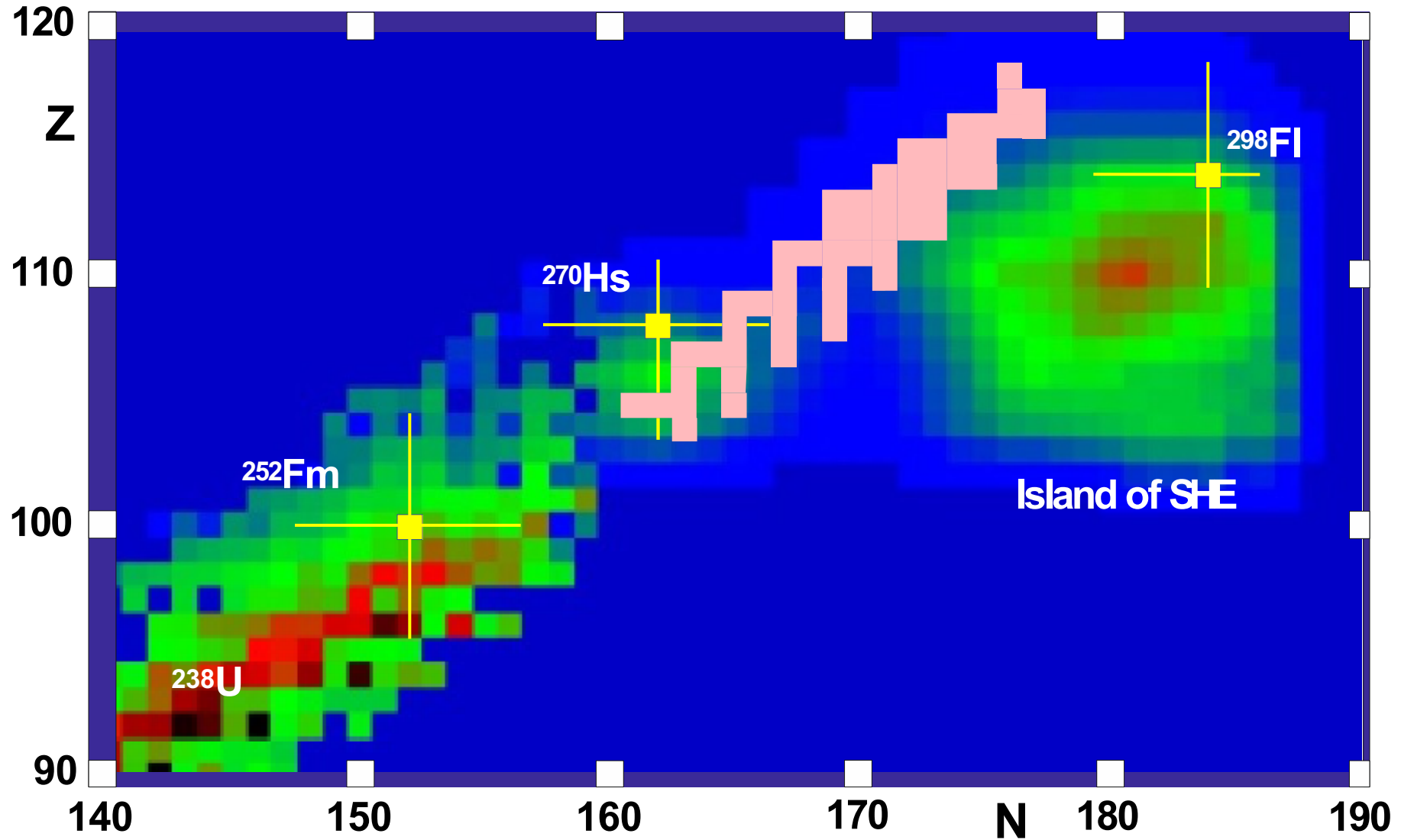
Science Brings Nations Together

113 Nh Nihonium (284)	114 Fl Flerovium (289)	115 Mc Moscovium (288)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)
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From ^{48}Ca induced reactions

Z=174

Macro - microscopic theory (Liquid Drop energy + Shell corrections)



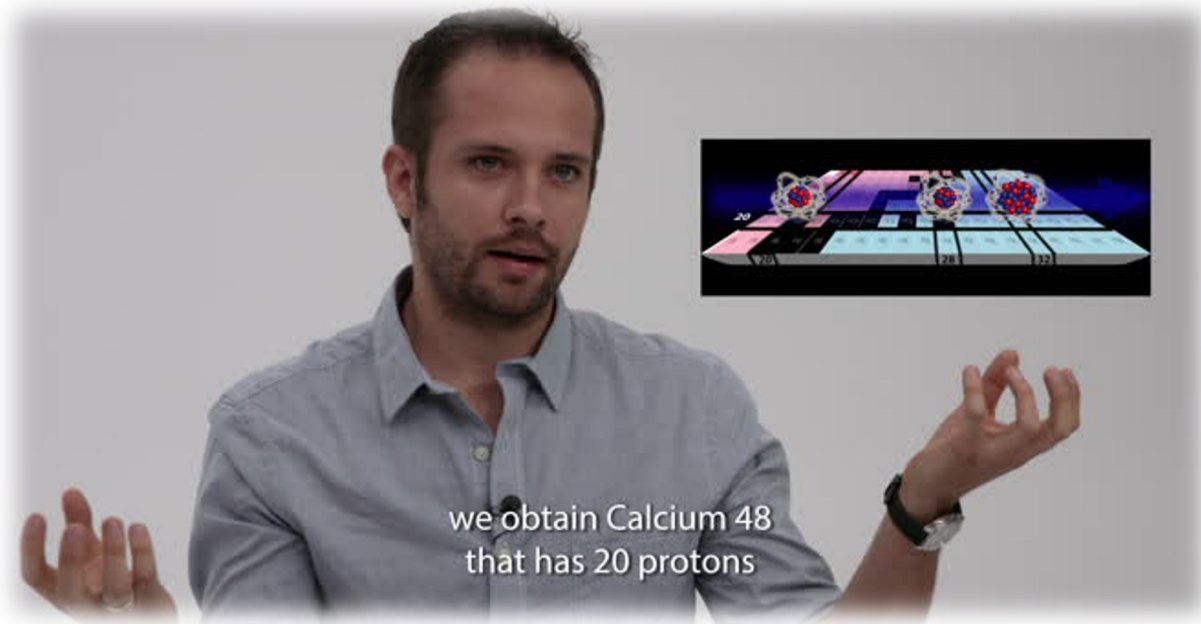
Young Investigator Prize:

3 awards every 3 years

The IUPAP Young Scientist Prize in Nuclear Physics was established by IUPAP in 2005 at the time of the General Assembly in Cape Town, South Africa.

The purpose of the prize, which consists of 1,000 €, a medal, and a certificate citing the recipient's contributions, is: **"To recognize and encourage very promising experimental or theoretical research in nuclear physics, including the advancement of methods, procedures, techniques, or devices that contribute in a significant way to nuclear physics research. Candidates for the prize must have a maximum of eight years of research experience (excluding career interruptions) following the Ph.D. (or equivalent) degree**

Ronald Fernando Garcia Ruiz:
MIT (Faculty)



Carlo Giulio Bruno:
U of Edinburgh (Lecturer)



Volodymyr Vovchenko:
Postdoc at INT/LBL
Faculty U of Houston



2022

IUPAP + IUPAC Procedures for Validating Claims of New Discoveries

A hand-drawn illustration featuring the text "Thank you" in a black, cursive script. The text is underlined with a simple black line. The background is composed of several abstract, painterly elements: a teal-colored area on the left with small white dots, a large orange-red shape in the upper right, and a light beige area at the bottom. There are also two small, simple line drawings of leaves, one in the top right and one in the bottom left.

Thank you