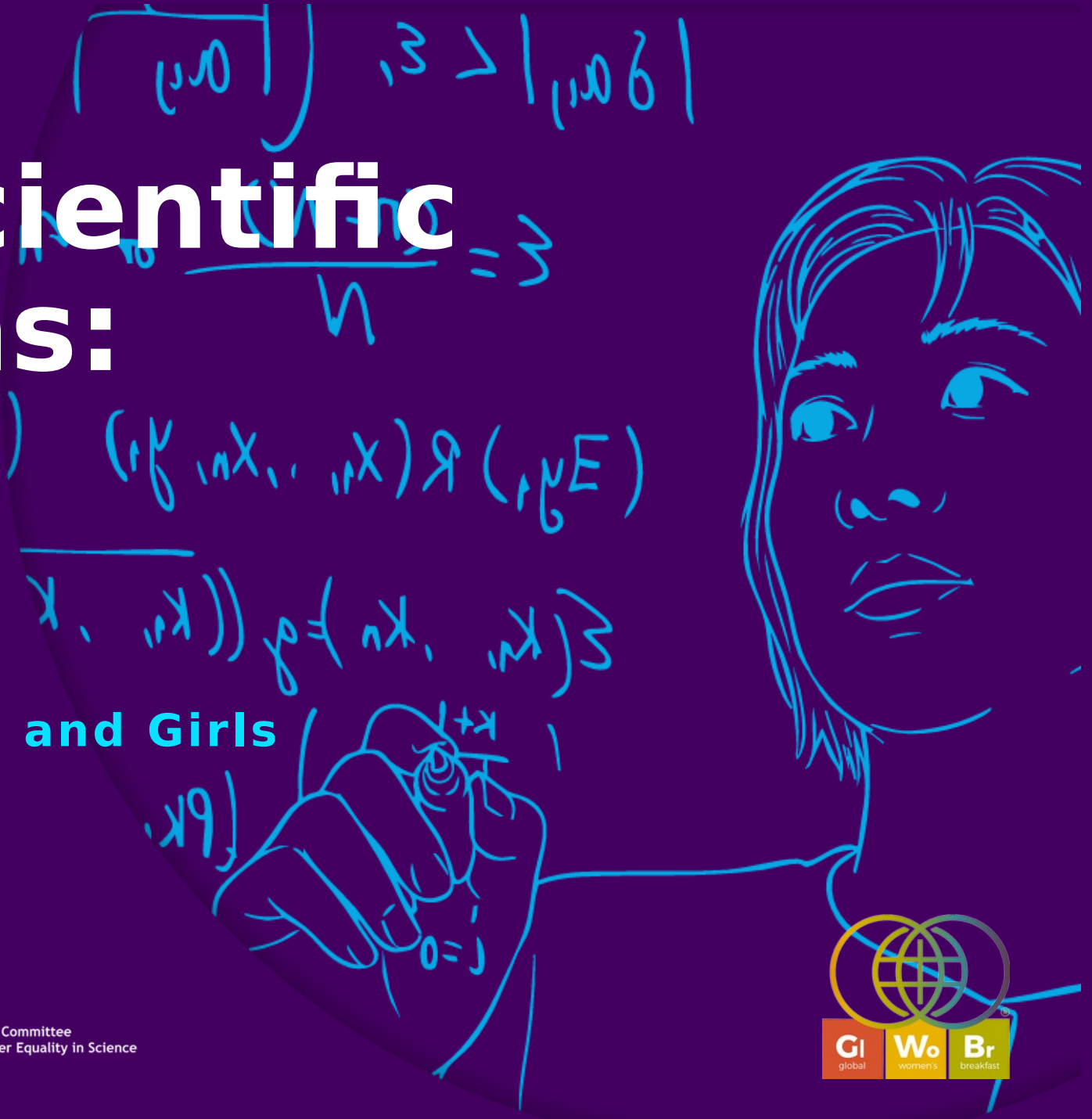
Women in scientific organizations:

EVIDENCE FROM SCIENCE ACADEMIES AND UNIONS

A special webinar for the International Day of Women and Girls in Science

11 February 2026



International Science Council

iap SCIENCE HEALTH POLICY the interacademy partnership

SCGES Standing Committee for Gender Equality in Science

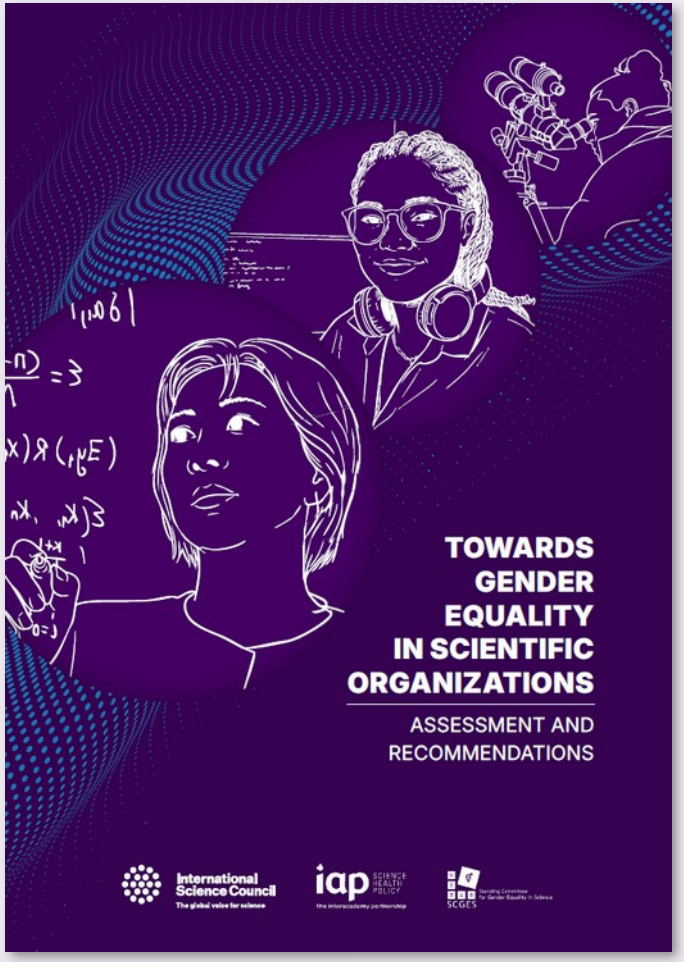
GI global Wo women's Br breakfast

Welcome!

- **Webinar** “Women in scientific organizations: evidence from academies and unions”

- **Launch of the report** by the International Science Council, the InterAcademy Partnership and the Standing Committee for Gender Equality in Science:

Towards gender equality in scientific organizations: assessment and recommendations



Welcome to the 2026 Global Women's Breakfast!

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SCGES

About the partners

ISC: The **International Science Council** convenes global scientific expertise to inform and influence action on issues that matter to science and society.

IAP: The **Interacademy Partnership** is the global network of science, engineering and medical academies working together to provide independent expert advice on scientific, technological and health issues.

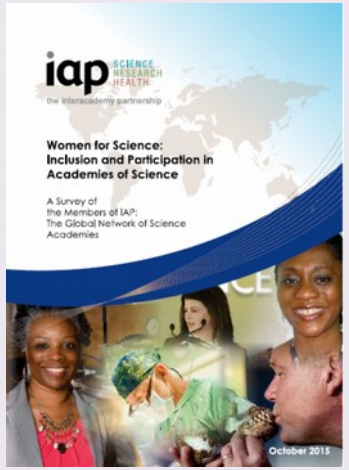
SCGES: The **Standing Committee for Gender Equality in Science** is a partnership of 25 scientific discipline-based international professional unions who have come together to promote gender equality globally and across disciplines.

Overview of the 2025 study

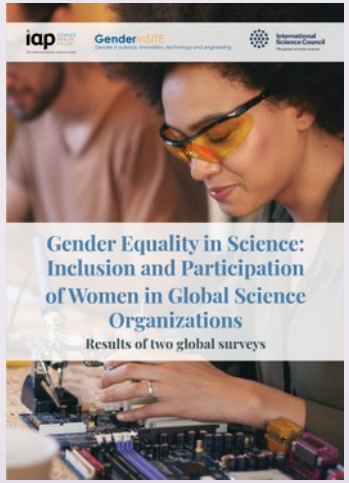
- **Timeline**: 3rd edition (2025), builds on previous studies (2015, 2020) > 10-year comparative assessment
- **Global scope**: ISC, IAP and SCGES membership
  National & young academies • Medical & engineering academies • International scientific unions

- **Mixed-methodology**:
  First edition to include qualitative components.
  1. Institutional online survey: 136 organizations
  2. Individual survey: 600 scientists
  3. Targeted interviews: 12 organizations

Previous editions

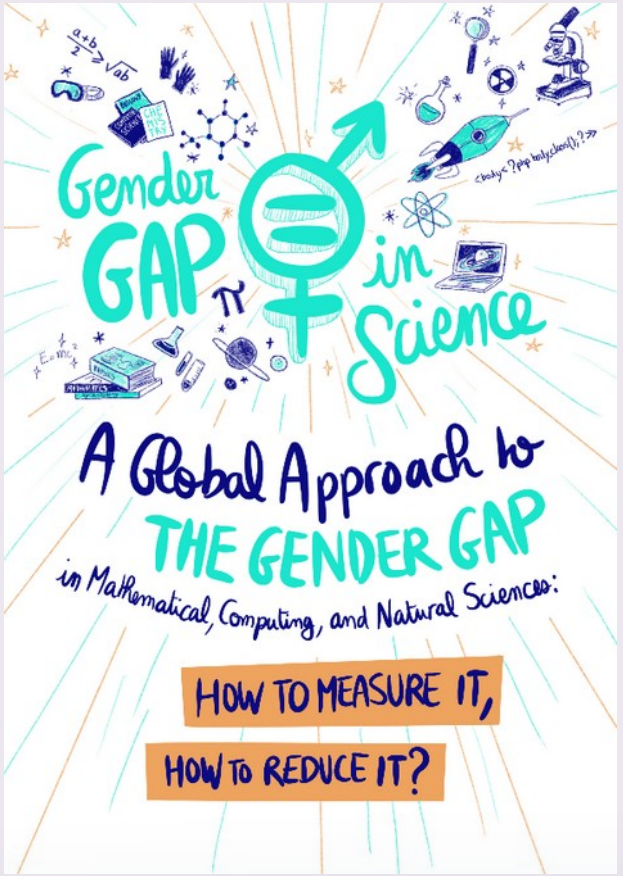


2015: InterAcademy Partnership (IAP). (2016). Women for Science: Inclusion and "*Participation in Academies of Science. A survey of the members of IAP: The Global Network of Science Academies.*"



2020: InterAcademy Partnership (IAP), GenderInSITE, & International Science Council (ISC) "*Gender Equality in Science: Inclusion and Participation of Women in Global Science Organizations. Results of two global surveys.*"

Resources



2019: Gender Gap in Science Project

"A Global Approach to the Gender Gap in Mathematical, Computing and Natural Sciences: How to Measure It, How to Reduce It?"

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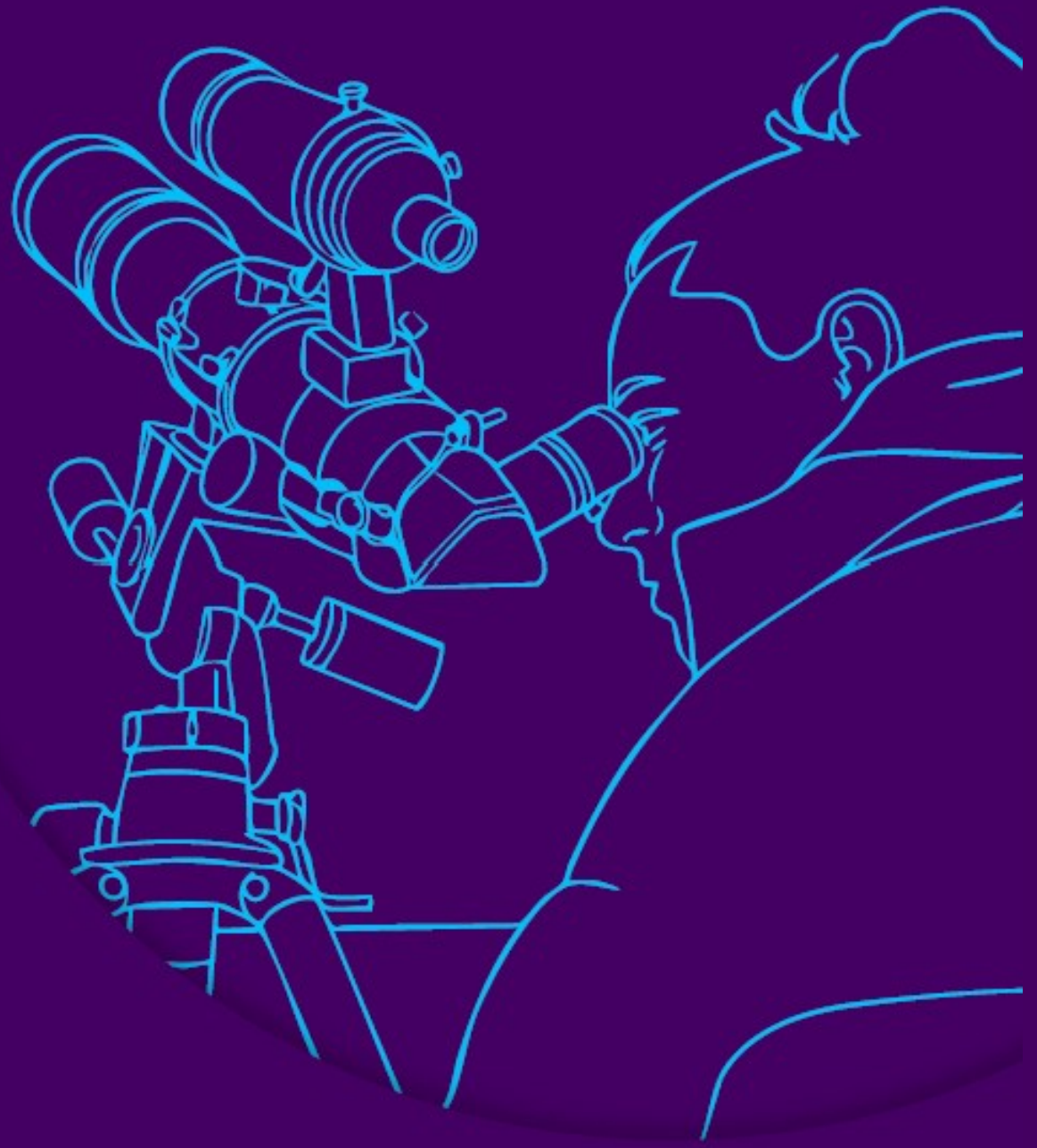
Presentation of findings from the 2025 global study

- **Léa Nacache**, International Science Council
- **Marie-Françoise Roy**, Standing Committee for Gender Equality in Science



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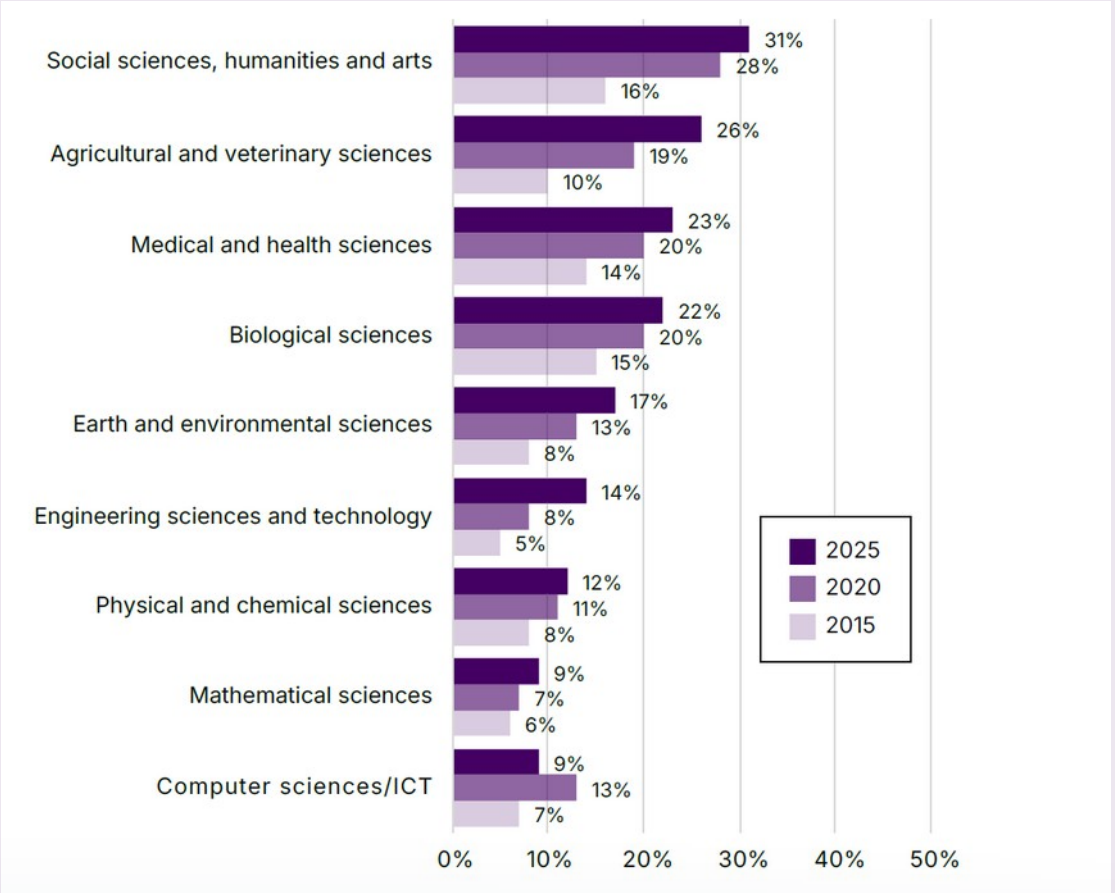
SCGES Standing Committee for Gender Equality in Science

Patterns of women's representation in national academies

- Average **19% of women members** in 2025
- **Decline of extremely low representation** (>10% women)
  34% in 2015 → 19% in 2025
- Clear **disciplinary stratification** (2015-2025 comparison):

Percentage of women among members of national academies across nine fields in 2025, with comparison to 2015 and 2020



Patterns of women's representation in national academies

The ten academies with most women members are **spread geographically**.

- Cuban Academy of Sciences – 39%
- Academy of the Social Sciences in Australia – 38%
- Science Council of Japan – 38%
- Nepal Academy of Science and Technology – 34%
- Mauritius Academy of Science and Technology – 33%
- Royal Society of New Zealand Te Apārangi – 31%
- National Academy of Sciences of Costa Rica – 30%
- Royal Flemish Academy of Belgium for Science and the Arts – 28%
- Pontifical Academy of Sciences – 28%
- Ecuadorian Academy of Sciences – 26%

Women in leadership

- 20% of national academy presidents are women (6 out of 10 in Europe).
- Marginal increase since 2015: 17 → 20%
- More than half of national academies report no women among vice-presidents or co-chairs.

Nomination and election in academies

Nomination & election patterns

- Women in nomination pools: ~30% (stable over the last 5 years)
- Women elected: ~36% on average
- Election success improving: 24% → 31% of nominated women elected (2020 → 2024)

Caution *due to limited sample: (n=27). Fewer than half of academies could consistently report annual nomination and election data for 2020–2024.*

Bottlenecks occur before the selection

Hypothesis: **The primary barrier lies in the composition of nomination pools**, which are shaped by whom and how candidates are identified, encouraged and nominated.

Nomination and election in academies

Nomination & election models

- **90%** of national academies refer to existing members to nominate candidates
- **85%** of academies elect new members based on the vote of all members
- **Only 13%** of national academies rely on dedicated committees for election of new members

Women's representation varies by election model.

- Academies using plenary votes by all members report an **average of 17% women**
- Academies relying on committee-based elections report a substantially **higher average of 34%**

Gender equality measures: uneven depth of institutional commitment

Symbolic / declarative

- 62% of academies have gender-related policy documents

Programmatic / activity-based

- 52% report initiatives to promote gender equality

Structural / governance mechanisms

- 36% have a dedicated structure for gender-related work
- 24% have a formal mechanism for dealing with gender-related complaints

Resource-backed commitment

- 9% have a dedicated budget for gender equality

International unions survey

- **39 international scientific** unions analyzed, i.e. half of the unions within the ISC and SCGES membership
- **19 SCGES partner unions** (among 25)
- building on the **2020 ISC-IAP** survey and **SCGES** surveys in 2023 and 2024
- Longitudinal comparisons limited to the **15 unions partaking in the 2020 and 2025** surveys, (13 from SCGES).

- SCGES partner unions contribute to **various activities related to gender equality in science**: annual reporting; participation in webinars, exchange of best practices and engagement in twice-yearly meetings.
- To provide **insight into the potential impact of sustained engagement** in such a coordination mechanism, comparisons are made between SCGES partner unions and other unions on several outcomes.

Patterns of women's representation in scientific communities

- **No global data** of women scientists. Estimation around 1/3.
- **16 unions provided estimates** of the proportion of women in their disciplines (53% of SCGES partner unions and 25% of other unions)
- Variety of methodology and data sources: estimates by their national members, analysis of publication patterns ...

- **Gender balance** (women represent 40%-60% of the community): .anthropology (55%), laboratory animal science (53%), cartography (45%), biochemistry and molecular biology (45%), geosciences (40%), and spatial photogrammetry and remote sensing (40%),
- **Intermediate level**s in systems analysis (36%), history and philosophy of science and technology (35%), soil sciences (around 30%), crystallography (30%), and mathematics (30%).
- **Lower levels** in **STEM fields**, including computer science (28%), physics (25%), and speleology (25%).

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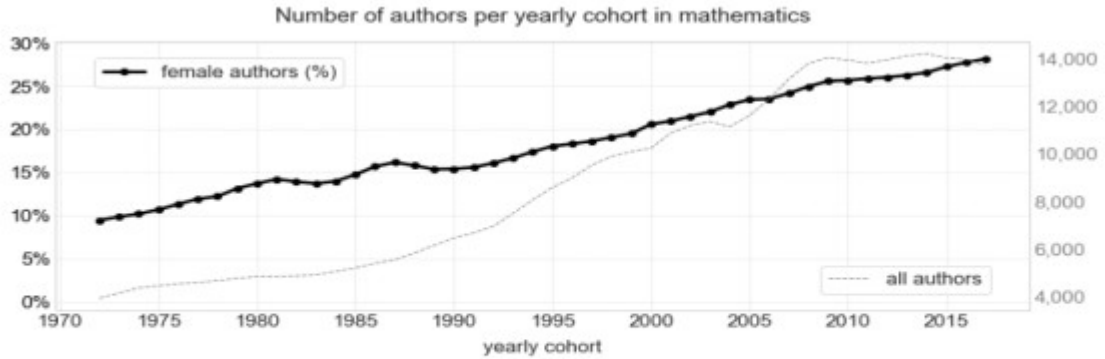

Figure 13: Number of active (publishing) mathematicians since 1970 and percentage of them that are women.

Participation, leadership and recognition in international unions

- The **member**s of the international unions are often **countries or regions**. Most do not have individual members.
- **Gender representation in union leadership comparatively strong.** On average, women hold **40% of leadership positions** across the 38 international unions who answered. Over half of these unions report **gender balance**.
- Among the 15 unions participating in both surveys (13 from SCGES), the share of women in governing bodies rose from **31.8% in 2020** to **45.5% in 2025**.
- **General assemblies.** Of 35 unions reported holding a general assembly, only 9 provided gender-disaggregated data on delegate participation
- **Scientific congresses. 80% of the unions recorded** the % of women **invited speakers,** less recorded the % of women attendees/organizers**. Women's participation similar across roles** (36-38%) aligned with % of women scientists**.**
- **Awards and prizes.** Of the 33 unions reported awarding prizes, fewer than half provided women %. Women accounted often for **less than 30%** of nominees and awardees**. 7 unions** (all from SCGES) reported **women only awards.**
-

Policies, structures and resources for gender equality in unions

- **Gender equality** is mentioned in the governing documents of 64% of unions – including 79% of SCGES partner unions and 50% of other unions
- Nearly half (46%) of all unions reported **having a permanent structure focused on gender,** and 32% reported an ad-hoc or temporary one. A **large majority of SCGES partner unions (84%)** reported having such structures, while 61% of other unions reported having none.
- Among those with dedicated structures, most unions reported having **sufficient resource**s to support their gender-related work.
- **Dedicated budgets for gender equality remain uncommon**.
- **Formal grievance mechanisms for gender-related complaints** were reported by only nine unions (24%).
- **Systematic evaluation remains rare**. Only 13% of the unions reported assessing the effectiveness of such initiatives
- Twelve out of 37 unions (32%) reported having **webpages dedicated to gender equality or women in science** – ten of which belong to SCGES partner unions.

Initiatives and challenges to promote gender equality

Initiatives

- **69% of international scientific unions** reported initiatives
- **Collaboration with other organizations** for 59% of unions (78% from SCGES), celebration of the **International Day of Women and Girls in Science** (56%), awareness-raising campaigns (41%), and **engagement in research** on gender equality and women in science (33%).
- Less emphasis on direct support for individual development

Challenges

- Unions identified **lack of gender-disaggregated data** as the most significant challenge to advancing gender equality, with approximately three quarters reporting that this issue applies to their organization to a large or some extent (Figure 24).
- **Limited institutional suppor**t, including constraints related to funding, staffing or organizational commitment, was identified as a major challenge by half of the unions.

Insights from the individual survey: access

→ Access is strongly shaped by informal encouragement and support from mentors.

- **Encouragement matters for both women and men:** 75% of men and 80% of women report having been encouraged to join.
- **It matters more for women**: 67% of women rate encouragement as ‘very important’ or ‘essential’, compared to men who most often rate it as only ‘moderately important’.
- **This support is informal and male-dominated**: Most encouragement comes from men (74% of men; 58% of women have been supported by a male mentor), while women are more likely than men to also be encouraged by other women (39% vs. 21%).

→ Access is driven by formally open processes but informal gatekeeping mechanisms, who shape who is encouraged, made visible and considered a legitimate candidate.

Insights from the individual survey: participation

→ Gender strongly shapes experiences in scientific organizations.

- **Access & entry pathways differ**: Women join scientific organizations later in their careers than men.
- **Progression is more constrained**: Both men and women see opportunities for progression, but women report them as less accessible — and are 3× more likely to identify barriers to progression or recognition
- **Experiences of events differ**: Women are nearly 4.5× more likely to miss events due to care responsibilities and, when present, are 6× more likely to report experiencing gender-based differences.
- **Harassment & discrimination persist**: Women are 2.5× more likely to report incidents and more than twice as likely to distrust reporting mechanisms.

Panel discussion

- **Peter McGrath,** InterAcademy Partnership

- **Rebeca Santamaría**, Spanish Royal Academy of Sciences
- **Lilia Meza Montes**, International Union of Pure and Applied Physics
- **Renuka Badhe**, Scientific Committee on Antarctic Research

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SCGES Standing Committee for Gender Equality in Science

REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

The Spanish Royal Academy of Sciences:

Embedding gender equality in statutes, a structural reform with measurable impact

REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

Academy was founded 1847 by Isabel II

REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

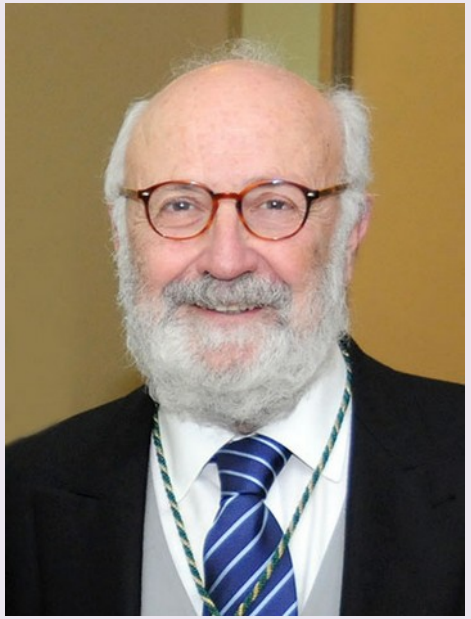
Royal Spanish Academy of Sciences
Fellow gender balance men/women
(full & corresponding members)

REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

2018 - New Academy board elected

Jesús María Sanz Serna, President (elected 2018)

+



Juan Rojo, Librerian (elected 2017)

+

Ana Crespo, full member since 2012

THREE PERSON WORKING GROUP => ALONG TWO YEARS

- The three member group drafted **new statutes**

- How? By consultations with academy members looking for **consensus (it took 2!! Years)**

- The refomr adressed three key issues:

    1. Aging of the members
    2. Underrepresentation of women
    3. The need for clearer rules and responsabilities for members

New statutes approved in 2020

- 40 % **gender quota**: at least 40% of the newly elected fellows must be women
- General **renewal rule**: 50% of the new corresponding members must be under 50 years old

- How make it work?
- The number of senior/full member positions was increased from 54 to 72 to create space to accelerate the progress without waiting for natural turnover.

- The number of correponding member positions was increased from 90 to 144 to create space to accelerate the progress without waiting for natural turnover.

- Before the new Statutes (as of October 1, 2020), the total number of Academicians was 133 (49 full members, 6 supernumerary members, and 78 corresponding members), of whom 120 were men (44 full members, 6 supernumerary members, and 70 corresponding members) and 13 were women (5 full members and 8 corresponding members).

- Today (December 17, 2025), we have a total of 181 Academicians (62 Full Members, 10 Supernumerary Members, and 109 Corresponding Members), of whom 136 are men [75.14%] (46 full members, 10 supernumerary members, and 80 corresponding members) and 45 women [24.86%] (16 full members and 29 corresponding members).

FEMALE MEMBERS ROYAL SPANISH ACADEMY OF SCIENCES

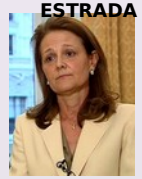
REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA


MARIE CURIE

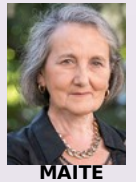

MARGARITA SALAS


ANTONIA LIZARBE


PILAR BAYER

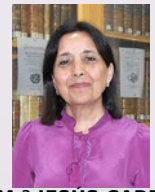

MONTSE GOMENDIO

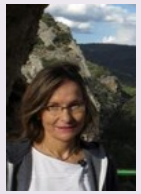

BELÉN ALONSO


MAITE LOZANO


CONSUELO MTNEZ.


EVA NOGALES

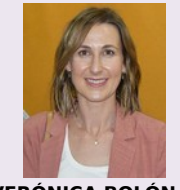

M.ª JESÚS CARRO


AURORA SANTOS


MARTA ESTRADA

SOLEDAD PENADÉS


LAIA ALEGRET

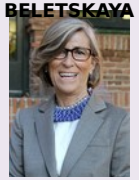

VERÓNICA BOLÓN

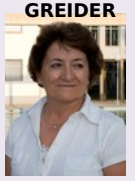

M.ª J. ESTEBAN


M.ª ÁNGELES GIL


BERTA MARTÍN

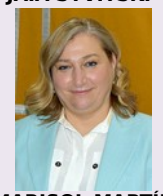

CARMEN CLAVER

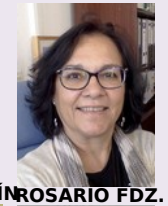

ANA CRESPO


CARMEN NÁJERA


CRISTINA NEVADO


A. ALONSO

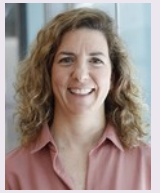

MARISOL MARTÍN


ROSARIO FDZ.

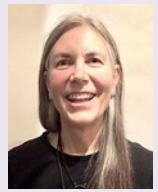

CARIDAD ZAZO

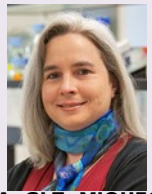

I. BELETSKAYA

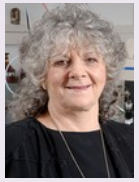

CAROL GREIDER

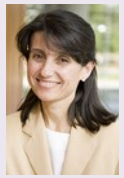

G. LÓPEZ BENDITO


PURA MUÑOZ


JAIA SYVITSKI


A. GLZ. MIQUEO


ADA YONATH


ANA CUERVO

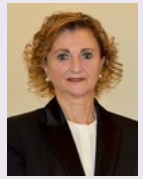

BLANCA JIMÉNEZ


NURIA VERDAGUER


MONTSE VILÀ


ANA MORENO


AMPARO ALONSO


INMA ORTIZ


ÁNGELA NIETO


NURIA LÓPEZ BIGAS


LOURDES VEGA


AITZIBER LÓPEZ


ANTONIA SEÑARÍS

1847 - 1980

1981 - 2000

2001 - 2019

2020 - 2024

- The new statutes facilited the election of the Academy ´s first –ever woman president, Ana Crespo in 2024, afer 177 years of history.

- If more women have the right to vote, it makes it easier to elect a woman.

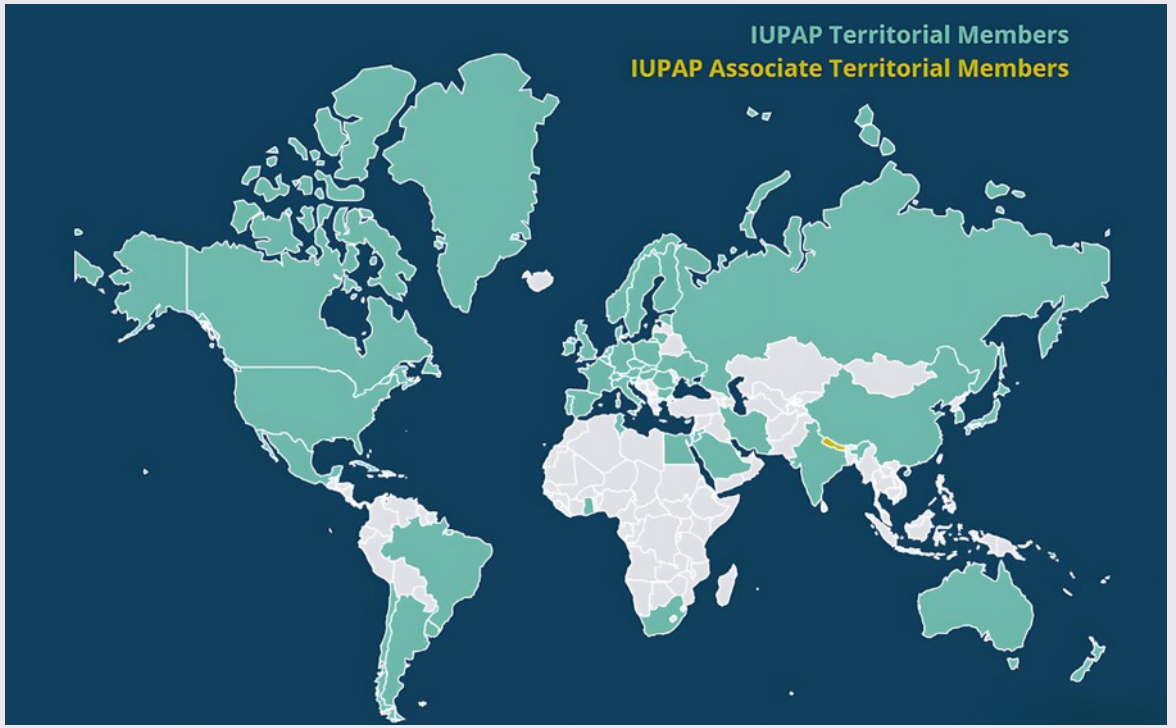
IUPAP Working Group #5
Women in Physics

Lilia Meza-Montes
Instituto de Física BUAP
Past Chair

Women in Scientific Organizations: Global evidence from Science Academies and Unions, 2026

ational Union of Pure and Applied P

- Established in 1922 in Brussels with 13 Member countries
- The First General Assembly was held in 1923 in Paris.
- It currently has
  - 52 territorial members
  - 8 Associate Corporate Members
  - Associate Territorial Members
  - Personal members



WORKING GROUPS

Created for a limited time period to address specific issues or problems

International Union of Pure and Applied Physics

To stimulate and facilitate international cooperation in physics and the worldwide development of science.

General Assembly

Major resolutions

23rd General Assembly of IUPAP (1999) - Resolutions

Resolutions Approved by the 23rd General Assembly

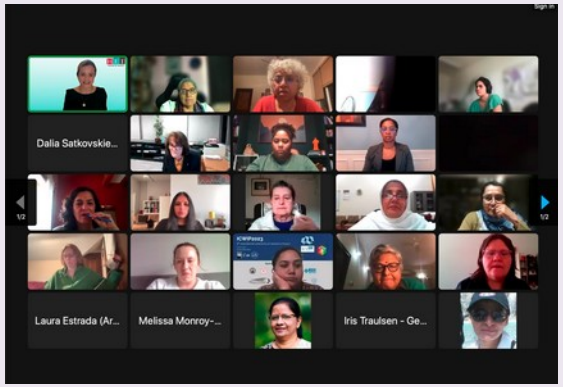
6. Resolution on formation of the Working Group on Women in Physics

It is resolved that an IUPAP Working Group on Women in Physics be formed. The mandate of the group shall be to:

- Survey the present situation and report to the Council and the liaison committees,
- and suggest means to improve the situation for women in physics.

International Conference on Women in Physics (ICWIP)

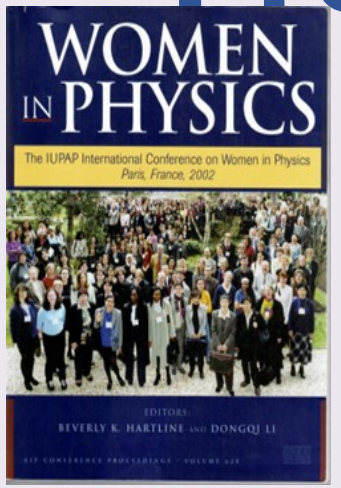
- Plenary talks and panels
- Small groups Discussion/Workshops
- Country posters
- Regional meetings
- Cultural and social activities

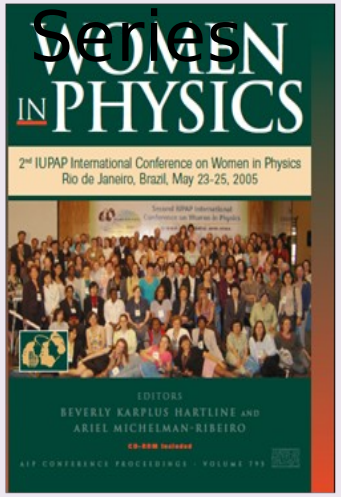


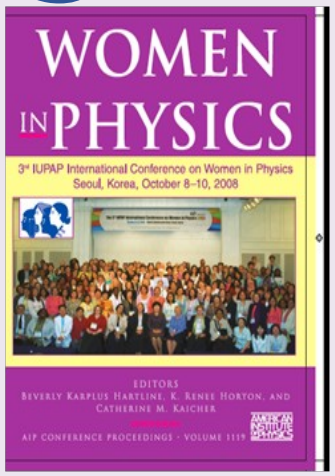
https://iupap.org/who-we-are/internal-organization/working-groups/wg5-women-in-physics/

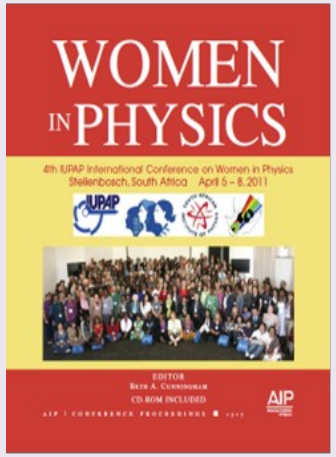
Conference Proceedings

AIP Conference Proceedings Series









INDIA 2023

The Surveys

Women Physicists Speak

The 2001 International Study of Women in Physics

1931-2006 AMERICAN INSTITUTE OF PHYSICS 75 Years of Service

AIP REPORT

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By Rachel Ivie
Stacy Guo

AIP Pub. Number R-441

April 2006

Women Physicists Speak Again

A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to Measure It, How to Reduce It?

IUPAP-CPS Women in Physics Forum: 25th Anniversary

Women in China
WiP across regions
Future

33rd General Assembly, Haikou, China, 2024

Worldwide impact

- Made gender an issue to be discussed
- Creation of national teams and networks
- More participation and better conditions for women in IUPAP organization and its conferences
- Programs and materials to attract the interest of girls in Physics
- Grants to support young women to attend scientific events
- Adoption of the principles for gender inclusion and diversity in Physics (Waterloo Charter)

International Science Council

SCGES Standing Committee for Gender Equality in Science

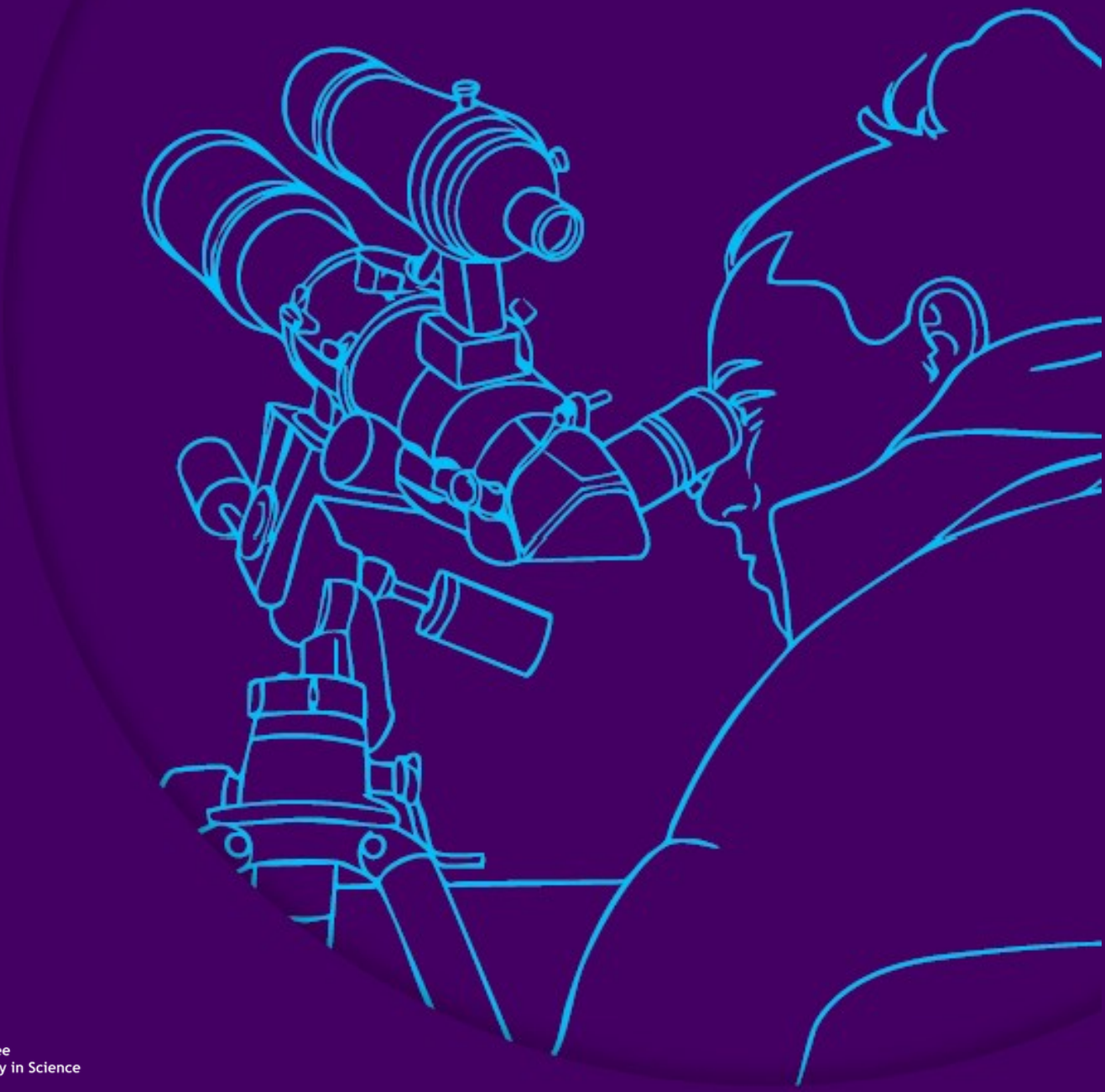
IUPAP International Union of Pure and Applied Physics

WG5: WOMEN IN PHYSICS

WG5: Mission/Mandate | WG5: Members | WG5: Reports | WG5: Conferences and Meetings

Recommendations

- **Catherine Jami**, Standing Committee for Gender Equality in Science and Governing Board of the International Science Council



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Evidence-based recommendations for scientific organizations

- Focus on areas where organizations have direct responsibility and capacity to act
- Designed to be feasible across different sizes and structures
- Aim to support lasting structural change, not one-off initiatives
- Organizations are encouraged to prioritize based on their context

These recommendations are designed to be feasible for organizations of different sizes and structures, and to support lasting structural change. Some have proven effective in several academies and international unions that have implemented them.

Institutionalizing gender equality

→ **Make gender equality a core organizational responsibility**

- Embed a commitment to gender equality in statutes and governing documents
- Adopt a gender equality & diversity plan with clear objectives
- Assign responsibility to governing bodies and dedicated structures
- Ensure regular reporting and sustained funding

Evidence shows that progress is uneven and fragile when gender equality relies on individual goodwill or ad-hoc initiatives. Formal institutionalization signals that gender equality is a core organizational responsibility, not a peripheral concern.

Nomination, election and recognition processes

→ **Make decisions transparent, fair, and accountable**

- Publish clear criteria and eligibility rules
- Ensure gender-balanced candidate and nominee pools
- Diversify and train nomination and election committees
- Document and monitor decisions at each stage to detect bias

Findings show that opaque or informal nomination processes contribute to the persistence of gender disparities. Transparent criteria, documented decisions and systematic monitoring are necessary to identify bias and broaden access to membership, leadership and awards.

Safe and respectful environments

→ **Prevent and address misconduct**

- Adopt and enforce a clear code of conduct
- Train leaders, committee members and staff
- Provide confidential, independent reporting mechanisms
- Ensure procedures are visible, accessible, and protective

Participation is affected by organizational cultures. Clear codes of conduct and effective response procedures are essential to ensure safe and respectful environments.

Accessible participation in events

→ **Remove barriers to participation**

- Set expectations for gender balance among speakers and chairs
- Support caregivers through financial and on-site solutions
- Use hybrid or remote formats and inclusive scheduling where possible

Scientific events are key sites of visibility, networking and recognition, yet participation remains uneven due to care responsibilities and practical constraints. Accessible formats, targeted support and inclusive scheduling are necessary to ensure equitable participation.

Inclusive culture and leadership pathways

→ **Build visibility, experience and leadership over time**

- Include early- and mid-career scientists in committees
- Offer mentoring and leadership development
- Ensure women’s visibility in awards, leadership and public roles
- Support networks of women scientists
- Integrate gender equality into mainstream meetings and events

Proactive inclusion, mentoring and balanced representation contribute to more equitable leadership pathways.

Gender-disaggregated data

→ **Measure progress to drive change**

- Collect sustainable gender-disaggregated data over time
- Track key indicators (membership, leadership, events, awards, publications)
- Disaggregate by discipline, region and career stage
- Define internal responsibilities, timelines and review cycles

The absence of consistent gender-disaggregated data limits organizations' ability to assess progress and identify gaps. Regular data collection and review enable monitoring over time and inform evidence-based action.

Sharing experience and good practice

→ **Learn from others and lead by example**

- Review initiatives implemented by peer organizations
- Communicate measures taken and progress achieved
- Promote peer-to-peer exchange across disciplines and regions

Effective measures to improve gender balance are already implemented across some organizations, but knowledge remains fragmented. Systematic sharing of practices supports peer learning, adaptation across contexts and wider uptake.

Q&A session

- **Nicky Hayes**, International Union of Psychological Science (IUPsyS)

Please submit your questions using the dedicated Q&A feature.

International Science Council

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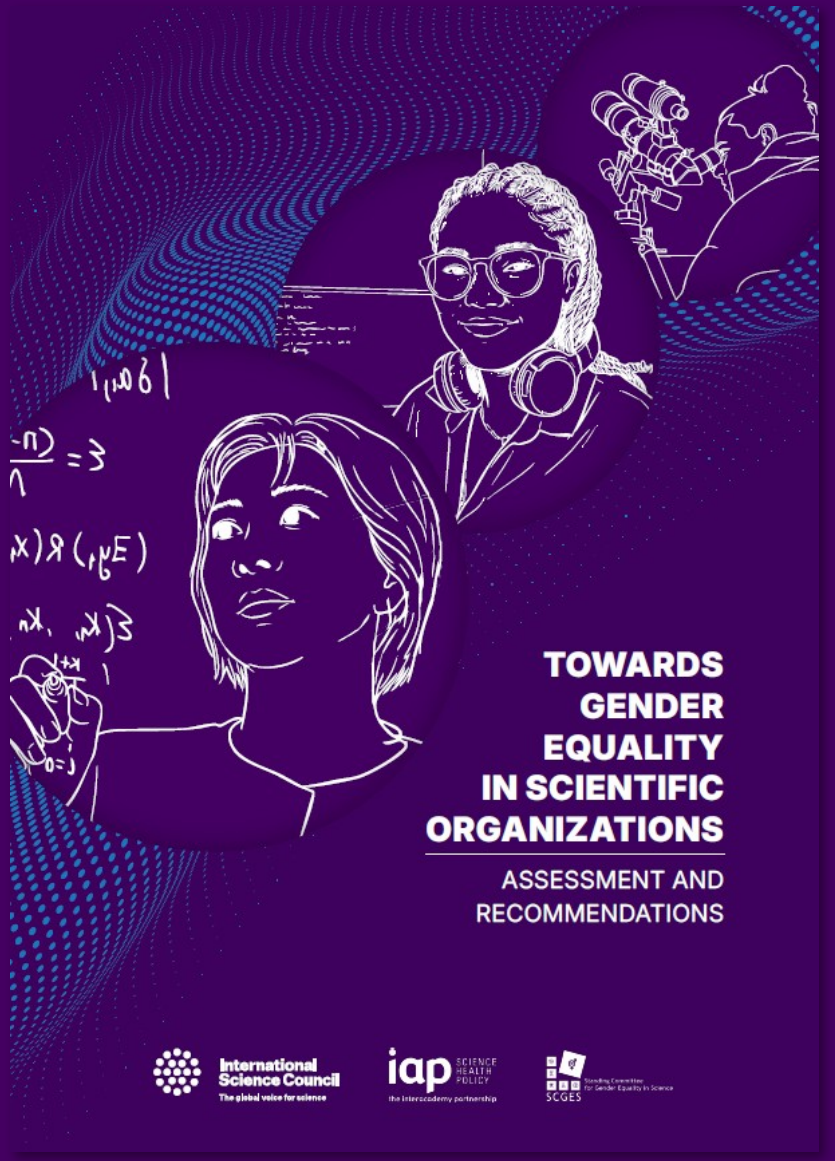
SCGES Standing C for Gender

Thank you!

The full report “*Towards gender equality in scientific organizations: assessment and recommendations*” is available.

We invite organizations to engage with the report, consider how the recommendations may be applied in their own contexts, and to **share their feedback** with the project’s team.



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