# Gender Equality in Science: Inclusion and Participation of Women in Global Science Organizations 

Results of two global surveys


## Gender Equality in Science: Inclusion and Participation of Women in Global Science Organizations. Results of two global surveys.

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## About GenderInSITE

Gender in science, innovation, technology and engineering (GenderInSITE) is an international initiative to promote the role of women in science, innovation, technology and engineering. Its mission is to inspire transformative actions and more effective development by understanding the impacts of SITE on women and men and how women and men can contribute to SITE.
GenderInSITE builds partnerships among its members to identify, understand, and develop strategies to apply the gender lens to SITE in six key areas: agriculture and food security; water and sanitation; energy; transportation; climate change and disaster \& risk reduction; and science education \& the workforce. Its aim is to demonstrate that this can provide deeper insights, more effective programmes and more sustainable outcomes in the context of development.
It engages with networks of researchers and policy-makers, organizing awareness-raising activities and using dissemination tools and resources. Currently GenderInSITE has two regional focal points: in Africa, and in Latin America \& the Caribbean.
For more information about GenderInSITE see https://www.genderinsite.net and follow GenderInSITE on Twitter https://twitter.com/GenderInSITE.

## About the InterAcademy Partnership (IAP)

Under the umbrella of the InterAcademy Partnership (IAP), more than 140 national, regional and global member academies work together to support the vital role of science in seeking evidence-based solutions to the world's most challenging problems. In particular, IAP harnesses the expertise of the world's scientific, medical and engineering leaders to advance sound policies, improve public health, promote excellence in science education and achieve other critical development goals.
IAP's four regional networks in Africa (the Network of African Science Academies, NASAC), the Americas (the InterAmerican Network of Academies of Sciences, IANAS), Asia (the Association of Academies and Societies of Sciences in Asia, AASSA) and Europe (the European Academies' Science Advisory Council, EASAC) are responsible for managing and implementing many IAP-funded projects and help make IAP's work relevant around the world.
For more information about IAP see https://www.interacademies. org and follow IAP on Twitter https:// twitter.com/IAPartnership, LinkedIn https://www. linkedin.com/company/interacademypartnership and YouTube https://tinyurl.com/ IAPyoutube.

## About the International Science Council (ISC)

The vision of the International Science Council is to advance science as a global public good. Scientific knowledge, data and expertise must be universally accessible and their benefits universally shared. The practice of science must be inclusive and equitable, as should opportunities for scientific education and capacity development.
The International Science Council (ISC) is a non-governmental organization with a unique global membership that brings together 40 international scientific Unions and Associations and over 140 national and regional scientific organizations including Academies and Research Councils.
For more information about ISC see https://council.science/ and follow ISC on Twitter https://twitter. com/ISC, LinkedIn https://www.linkedin.com/company/international-science-council/, Facebook https://www.facebook.com/InternationalScience/, Instagram https://www.instagram.com/council. science/ and YouTube https://www.youtube.com/c/InternationalScienceCouncil.

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## Acronyms and abbreviations

AASSA Association of Academies and Societies of Sciences in Asia
ALLEA European Federation of Academies of Sciences and Humanities
ASSAf Academy of Science of South Africa
BMBF Federal Ministry of Education and Research, Germany
CAETS International Council of Academies of Engineering and Technological Sciences
CSTD Commission on Science and Technology for Development
GenderInSITE Gender in Science, Innovation, Technology and Engineering
GRC Global Research Council
HLPF High-Level Political Forum
IANAS Inter-American Network of Academies of Sciences
IAP InterAcademy Partnership
ICT Information and communications technology
ICTP International Centre for Theoretical Physics
ISC International Science Council
M\&E Monitoring and Evaluation
NASAC Network of African Science Academies
OWSD Organization for Women in Science for the Developing World
RRI Responsible research and innovation
SAGE Science in Australia Gender Equity
S\&T Science and Technology
Sida Swedish International Development Cooperation Agency
STEM Science, Technology, Engineering and Mathematics
STI Science, Technology and Innovation
SWAN Scientific Women's Academic Network
TWAS The World Academy of Sciences
UK United Kingdom
UN United Nations
UNESCO United Nations Educational, Scientific and Cultural Organization
US United States
USA United States of America
WFEO World Federation of Engineering Organizations
WISE Women in Science and Engineering

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## Executive summary

## Background

This study reports on the results of surveys conducted amongst academies that are members of the InterAcademy Partnership (IAP) and the International Science Council (ISC), as well as amongst international disciplinary unions and associations that are members of the ISC, to ascertain the inclusion and participation of women scientists. The study was coordinated by GenderInSITE (Gender in Science, Innovation, Technology and Engineering), in collaboration with the IAP and ISC. It is a follow-up to a first global survey of science academies conducted in 2015 and funded by the IAP. A key objective of the current study was to ascertain the extent to which progress in gender equality has been made by academies. What makes the present study unique is its broadened focus to include medical academies that became members of the IAP after 2015 and national young academies, as well as ISC-member academies, mainly drawn from the social sciences. In addition, the international disciplinary unions and associations of the ISC were also surveyed, given their potential to play an important role in leading gender transformation in specific disciplines.
Respectively, 85 and 38 valid submissions were received from the academies and the disciplinary unions and associations.
The individual science institutions surveyed, be they academies, disciplinary unions or associations, through their membership of international bodies such as the IAP and ISC, represent a large proportion of global scientific endeavour. In total, they represent over 250 unique organizations that are coordinated at a global level. The survey results therefore provide important baseline information for a transformative action agenda for gender equality in global science.

## Survey of academies

Only six out of a total of 72 academies responded that the 2015 survey report, which contained many recommendations for academies, was discussed at a strategic planning session. This failing is addressed in the current report through a stronger and more directed recommendation to bring the results of the current survey to the attention of relevant academy governing bodies. Most appreciated of the previous report were the comparisons related to gender representation between academies. The comparisons were considered enlightening, provided useful statistics for reporting, and prompted both established and new academies into action.
The average share of women's representation in 2020, across the same cohort of academies as in the 2015 survey, is $17 \%$, up from $13 \%$ in the 2015 survey. If all senior academies that responded to the 2020 survey are included ( 26 more than in 2015), the average for women's membership is $16 \%$. All academies showed an increase in women's membership, however, 19 academies still report $10 \%$ or less women's membership. Academies of young scientists have the largest shares of women members, with the South African Young Academy of Science in the first position (57\%), followed by both the Young Academy Finland and the National Academy of Young Scientists of Pakistan in joint second position ( $55 \%$ each). The average share of women's membership of the 13 young academies is $42 \%$. Ten young academies are ranked ahead of the highest ranked senior academy in terms of number of women members, viz. the Academy of Sciences of Cuba, which has increased its share from $27 \%$ in 2015 to $33 \%$ in 2020.
For each of nine broad disciplines, the mean share of women members ranges from as high as $28 \%$ (biological sciences) and 27\% (social sciences, humanities and arts) to as low as 10\% (engineering sciences) and 8\% (mathematical sciences).
The average share of women serving on the governing body ( $29 \%$ for the 85 academies in 2020) represents an increase over the corresponding share of $21 \%$ for the academies that participated in the 2015 survey. Comparing the same cohort of 43 academies that participated in both the 2015 and 2020 surveys, the recent share is slightly lower at $28 \%$. The National Academy of Sciences in the US ( $67 \%$ ), together with Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela ( $67 \%$ ) and the Global Young Academy ( $64 \%$ ), have the highest representation of women serving on the governing body. This might be indicative of a concerted effort by some academies to involve more women in their governing body. It is noted that both the senior academies in the US and Venezuela have a woman president.
Asked whether the academy had any document (e.g. strategy, policy or founding document) that explicitly mentions the need for increased participation of women in the academy's activities, 30 of the 84 academies ( $36 \%$ ) responded in the affirmative. Twenty ( $24 \%$ ) of the 84 academies responded that the academy hosts a 'Women in Science' award. Out of 84 academies, 21 ( $25 \%$ ) indicated that, since 2015, they had published a report that specifically addresses issues related to women or gender. Nineteen of the 85 academies ( $22 \%$ ) have a document of some kind that addresses sexual harassment in the workplace.

Asked if they have any programmes/initiatives on women in science, 39 ( $46 \%$ ) of the 84 academies responded positively. The programmes and initiatives mentioned are wide-ranging. For some academies, the relevant programmes and initiatives are informed by their being the regional focal points and/ or national chapters of global and regional organizations such as the Organization for Women in Science for the Developing World (OWSD), GenderInSITE and The World Academy of Sciences (TWAS). A few academies also established a commission for women in science, whereas, for others, relevant initiatives relate to the organization of specific events such as summits, international conferences and communication campaigns.
About $40 \%$ of academies address women's issues through linkages with one or more international organization(s)/networks that promote(s) women's activities. This is indeed the case for 13 of the 16 academies in the Americas but less so for Europe, where only seven of the 33 academies in that region reported that strategy. In the Americas, the strong focus of IANAS (Inter-American Network of Academies of Sciences), as a regional group, on women in science and their over 20-year history of undertaking gender-focused studies and advocacy, is significant.
Between $74 \%$ and $83 \%$ of academies either agreed or strongly agreed that their academy is working towards ensuring more women at decision-making levels, and in panels and committees. However, in terms of women's representation in the nomination pool for membership as well as in the nomination pool for prizes and awards, the corresponding figures are lower at $62 \%$ and $61 \%$ respectively. Overall, the academies' alignment with Sustainable Development Goal 5 (gender equality) of the United Nations is relatively low ( $46 \%$ agreed or strongly agreed, with an additional $20 \%$ stating that it does not apply to their academy). A similar finding pertains to the application of a 'gender lens' in the work of an academy ( $55 \%$ either agreed or strongly agreed that it is the case).

## Survey of unions and associations

International unions and associations, collectively termed international disciplinary organizations in this report, have an average of $36 \%$ women serving on their governing bodies, and this share equals or exceeds $50 \%$ for 10 of the 38 disciplinary organizations. Generally, social science organizations are ranked higher in terms of the share of women on the governing body, $67 \%$ versus $24 \%$ for physical/natural science organizations.
Thirty-seven percent of international disciplinary organizations currently have a woman president and $39 \%$ currently have a woman occupying the position of executive director/secretary. Both these percentages have increased when compared with the immediate past percentages, viz. $32 \%$ in the case of president and $16 \%$ in the case of executive director/secretary.
Asked whether they have any document (strategy, policy, founding document, etc.) that explicitly mentions the need for increased participation by women in their activities, 31 disciplinary organizations responded. Of these, 14 ( $45 \%$ ) responded in the affirmative. The documents differ in nature, ranging from strategic plans and mission statements to guidelines for support at scientific conferences and meetings.
Regarding attendance at their last General Assembly, $58 \%$ of disciplinary organizations reported that they did not collect gender/sex-disaggregated data for participants. Where such data were available, only in the case of $11 \%$ of disciplinary organizations did the percentage of women attendees at the General Assembly exceed $50 \%$.
Twenty-one out of 33 disciplinary organizations ( $64 \%$ ) responded that they had published a report that specifically addresses issues related to women or gender.
Disciplinary organizations with a secretariat were asked to indicate whether a policy exists for addressing sexual harassment in the workplace. Of 36 disciplinary organizations that responded, 15 (42\%) pointed to the existence of such a policy.
Twelve out of 38 ( $32 \%$ ) disciplinary organizations indicated that they have grants, fellowships or awards specifically for women. Nineteen out of 36 ( $53 \%$ ) disciplinary organizations reported a committee, research board or similar structure with a specific focus on women in science issues. Twenty-two out of 37 (59\%) disciplinary organizations reported an initiative and/or advocacy/networking activity aimed at the promotion of gender equality in science.
The disciplinary organizations' commitment to diversity and inclusivity issues is high ( $68 \%$ agreement) but actions and activities are trailing far behind ( $32 \%$ agreement or below), with only $16 \%$ of disciplinary organizations reporting the availability of a budget to implement activities related to gender equality.
Only one disciplinary organization said that it has been evaluated on its performance and action to promote women's participation and gender equality in science. Just over half of the 38 disciplinary organizations (20, or 53\%) claimed that they regularly monitor women's participation among their membership.

## Recommendations

The individual organizations surveyed, be they academies, disciplinary unions or associations, through their membership of international bodies such as the IAP and ISC, represent a large proportion of the global scientific endeavour. In total, they represent over 250 unique organizations that are coordinated at a global level. The survey results therefore provide important baseline information for a transformative action agenda for gender equality in global science. Both the IAP and ISC are highly influential bodies; together they have the power to be forceful change-makers and leaders, with the potential to create a coalition for gender equality in global science. The recommendations that follow are crafted with such a coalition in mind and chart the way forward for an ongoing collaboration that can lead to meaningful transformation.

## Recommendation 1: Extension of survey

A more inclusive and comprehensive understanding of gender equality in global science would be gained by supplementing the results of the current study with results of a survey (where such surveys have not been conducted) distributed to other global science organizations, such as the funding agencies of the Global Research Council (GRC), members of the World Federation of Engineering Organizations (WFEO) and engineering academies that are members of the International Council of Academies of Engineering and Technological Sciences (CAETS). Such an expansion would also serve to build and strengthen the nascent coalition for gender equality in global science.

## Recommendation 2: Analysis of gender-related organizational policy, structure and actions

This study has gathered relevant information from the surveyed organizations and hence achieved an important first step in the creation of an inventory of policy documents and actions. The next step should be a detailed analysis of this rich and valuable set of resources with a view towards better understanding (1) the different models and modes associated with each of the three elements; (2) how organizations' thinking around policy, structure and action has evolved; and (3) the identification of best practices in relation to gender and science, technology and innovation (STI).

## Recommendation 3: Development of a central repository

There is an urgent need for the development and ongoing maintenance of a central repository of genderrelated policies and actions (i.e. projects, interventions, outputs, etc.) of academies, disciplinary unions and associations. This has potential to establish closer linkages between organizations and presents opportunities to learn from each other's best practices. Consideration should be given to the inclusion of evaluations of the efforts. The three partners in this project should discuss the nature of the proposed database, as well as hosting, funding and maintenance responsibilities.

## Recommendation 4: Incorporation of regional considerations

Although the focus of this report is on global science organizations, each has a regional footprint that has highlighted some important regional variations, as well as regional shortcomings and opportunities. The regional networks, offices, or national committees present an opportunity to gain regional insights and to coordinate action directed at greater advocacy work amongst national science academies and national committees of disciplinary unions. The partners should develop a plan to utilize this regional presence and differential impacts to gain insights and to advance the gender equality agenda, especially in countries/regions that are lagging.

## Recommendation 5: Advancing women to leadership positions

The average share of women serving on the governing body is $29 \%$ for academies and $37 \%$ for international disciplinary organizations. The three partners in this study should monitor and promote women's leadership and service on governing bodies to ensure women's voices are included in the setting of science agendas.

## Recommendation 6: Consideration of diversity and inclusivity

The surveys explored the topics of diversity and inclusivity to gauge levels of awareness of these broader issues. It is concluded that it is best to follow a stepwise approach, whereby the focus on gender equality is retained into the future, while simultaneously raising awareness about the need for transformative action that embraces diversity and inclusivity more generally. The three partners should collaborate to foster a debate about diversity and inclusivity in global science, with a focus on intersectionality and gender considerations. Specific concerns relate to the intersection of race, ethnicity and gender. Organizations should take their cue for transformative action from the discussions.

## Recommendation 7: Analysis of discipline-based gender transformation

This study has revealed that gender equality varies across disciplines, implying that discipline-based action is needed to increase the number of women researchers. The under-representation of women in certain disciplines presents a convergence point for the three partners to collaborate on a strategy to enhance not only the number of women researchers, but also the nomination pool of women and the success rate of women elected as members of science academies.

## Recommendation 8: Establishment of monitoring and evaluation (ME®E) framezorks

The finding that only six academies had discussed the recommendations of the 2015 academy report at a strategic planning session was disturbing and underscores the need for monitoring and evaluation (M\&E). A strong recommendation of the 2015 report was for annual collection and reporting of genderdisaggregated data. Surveys should be conducted on a regular basis every five years. The IAP and ISC should commit to the establishment of centralized M\&E frameworks that require regular reporting of relevant gender statistics of their member organizations at each of their general assemblies to ensure that gender transformation is tracked. They should also assist their members by providing tools for them to establish their own M\&E frameworks.

## Recommendation 9: Identification of lessons from young academies

This study has shown that young academies are significantly more gender-balanced than senior academies. The partners should undertake a follow-up collaborative study to understand how the gender transformation journey of senior academies can learn and benefit from the achievements of young academies in respect of gender balance and also to ensure that the balance is not lost as the careers of these young scientists advance and they begin to be nominated for senior academies and appointed to other leadership positions.

## Recommendation 10: Shift from a focus on 'numbers' to institutional and knowledge transformation

The gender transformation journey of global science organizations needs to be about more than just 'numbers'; it needs to focus in addition on institutional culture and knowledge production to ensure that the needs and perspectives of women as well as men are considered. The partners should embrace a shift from focusing on 'numbers' to an approach that embraces the incorporation of a 'gender lens' in all their activities.

## 1. The study context

In 2015, the InterAcademy Partnership (IAP) funded the first global survey of academies to ascertain the inclusion and participation of women scientists in those academies. The survey comprised two parts. The first was a survey coordinated by the Inter-American Network of Academies of Sciences (IANAS) in North America, Latin America and the Caribbean, and the second, a survey that the Academy of Science of South Africa (ASSAf) coordinated, and which studied IAP-member academies in the other world regions. Both surveys were supported by IAP, and the latter also enjoyed the support of the Organization for Women in Science for the Developing World (OWSD) and the Network of African Science Academies (NASAC). The results of the survey were published as a report, entitled: Women for Science: Inclusion and Participation in Academies of Science. ${ }^{\text {i }}$ The report made a number of recommendations, among which was that IAP-member academies should annually collect, analyze and report gender-disaggregated data on their respective membership and activities. Merit-based academies have a dual mandate, to honour scientific excellence and to provide evidence-based scientific advice in support of policy development to their governments and stakeholders. For this dual mandate to be fully realized, the recognition through academy membership and participation of women scientists in academies' science advisory activities are important.
The present study is a follow-up to the 2015 study. It is coordinated by GenderInSITE (Gender in Science, Innovation, Technology and Engineeringii), in collaboration with the IAP and the International Science Council (ISC). A key objective was to ascertain the extent to which progress in gender equality has been made and to report on recommendations that have been implemented. What makes the present study unique is its broadened focus to include medical academies that became members of the IAP after 2015, national young academies, and ISC-member academies, mainly drawn from the social sciences. In addition, the international disciplinary unions and associations of the ISC were also surveyed, given their potential to play an important role in leading gender transformation in specific disciplines.

Before discussing the survey methodology (Section 3) and main results (Sections 4 and 5), a global overview of women's participation in science is provided. The focus of this brief discussion is on women's share of researchers worldwide.

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## 2. Global overview of women's participation in science

A global and comparative perspective of the participation of women in science is only as good as the quality and availability of gender-disaggregated data. The online portal of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute of Statistics (UIS), as of 1 July 2021, includes data on the share of women researchers per country, for 127 countries. The available figures reported as headcount shares except for one country for which a full-time equivalent is reported - do not always reflect the most recent year. For 49 of the 127 countries, the most recent reporting year in Figure 1 is 2018, whereas for 62 countries the reporting year ranges between 2015 and 2017, and for the remaining 16 it is between 2013 and 2014. Furthermore, relatively 'large' global players are included among the countries not covered by the UIS as far as the percentage of women researchers (headcounts) is concerned. These include Brazil, China and the United States of America (USA), as well as other countries such as Australia, Benin, Canada, Lebanon, Malawi, Nicaragua and Zimbabwe.
These challenges aside, in 2020, UNESCO released a fact sheet on the representation of women as researchers, based on available UIS figures at that point in time. The fact sheet included, among others, a global map of women's shares of researchers, which has been reproduced as Figure 1.


Figure 1: Women as a share of researchers
Source: UIS (2020). Women in science. UIS fact sheet, June 2020, No 60. FS/2020/SCI/60.

At the time of publication of the UIS fact sheet, only five countries in the world reported representation levels of women researchers that were significantly above the 50/50 mark (gender parity) - Myanmar ( $75.6 \%$ ), Venezuela ( $61.4 \%$ ), Azerbaijan ( $58.6 \%$ ), Tunisia ( $56.1 \%$ ) and Trinidad and Tobago ( $55.9 \%$ ). In addition, 35 countries (out of a total of 143) reported figures of between $45 \%$ and $55 \%$. This means that altogether 35 countries either closely approached or exceeded the parity level, with 103 countries falling just below or significantly below the parity level. The three countries with the smallest shares of women researchers were Democratic Republic of the Congo ( $8.7 \%$, in 2015) , Nepal ( $7.8 \%$ in 2010) and Chad ( $3.4 \%$, in 2018). The report also presents regional averages for 2017 (with a world average of $30 \%$ ), based on then available data:

- Central Asia: $48.5 \%$
- Latin America and the Caribbean: $45.8 \%$
- Arab States: 40.9\%
- Central and Eastern Europe: 39.0\%
- North America and Western Europe: 32.9\%
- Sub-Saharan Africa: 31.1\%
- East Asia and the Pacific: 25.0\%
- South and West Asia: 23.1\%

For the current report, the online portal of the UIS (http://data.uis. unesco.org) was revisited (in July 2021) and data on the share of women researchers (headcounts) downloaded for all countries listed. Appendix 1 reports the relevant figures.
Relevant figures are available for 127 countries. For only 39 of these countries the share of women researchers exceeds $45 \%$, which, depending on the figure, is either above or just below the parity mark. For a further 31 countries the corresponding figure is less than $30 \%$. For the remaining 57 countries, the share of women researchers ranges between $31 \%$ and $44 \%$. This wide-ranging set of figures (at country level) needs to be taken into account when viewing the share of women members of academies in the different countries.

## 3. Survey methodology

The study comprised two separate but related online surveys - a survey of academies, which are members of either the IAP or the ISC or both, and a survey of international disciplinary unions and associations, which are members of the ISC. The first was administered between November 2019 and March 2020, and the second between May and June 2020. The questionnaire for this academy survey closely matched that of the 2015 academy survey, with some additional questions aimed at determining progress made in terms of women's participation based on the recommendations of the previous report. The ISC disciplinary organization ${ }^{\text {iii }}$ survey followed a somewhat different format to take account of the different organizational structures of the various members, where the representatives can be either countries or individuals, or both. The survey was developed to explore the extent to which ISC international disciplinary organizations have responded to gender equality imperatives in their leadership and implemented activities that are designed to promote greater participation of women and gender-responsive actions in their respective disciplines. The two survey instruments are included in Appendices 2 and 3.
Based on its website ${ }^{\text {iv }}$, the IAP has 140 member-academies, which are grouped into four broad geographical regions (Africa, Americas, Asia-Pacific and Europe) as well as in a cross-spanning region (global and regional) for academies that are not national academies (e.g. The World Academy of Sciences or TWAS). Included in the IAP membership list are national medical academies. The survey did not target academies of engineering. The ISC, on the other hand, according to its websitev, includes 85 academies among a larger list of other organizational types. The ISC academy membership partially overlaps that of the IAP but also includes some humanities and social science academies that are not members of the IAP.
The actual records used for the sampling frame contained the names and addresses of 215 academies. Of these, 153 were senior academies, 44 young academies and 18 young scientist networks. Eventually, a total of 146 submissions by academies was received in the online survey. Once duplicate submissions were removed (i.e. where the same academy submitted more than one form), 95 unique submissions remained, giving a response rate of $44 \%$. Of these, 10 were not usable (e.g. the academies completed only the demographics section of the questionnaire), resulting in a final total of 85 questionnaires available for analysis.
In the case of the survey of disciplinary unions and associations, a total of 40 submissions were received, of which two were duplicates. As the population comprises 63 disciplinary organizations, the 38 valid submissions indicate a response rate of $64 \%$.
Tables 1 and 2 list the 85 academies that submitted questionnaires that could be used in data analysis. Of these, 80 are national academies. They appear in Table 1 and are arranged by country and classified in terms of world region and their membership affiliation (IAP and/or ISC). The five global or regional academies appear in Table 2, which follows a similar reporting structure. In each case, the young academies (which, except for the Global Young Academy (GYA) are not members of either IAP or ISC) are shaded.
Table 1: List of national academies that participated in the 2020 survey

| Country | Academy | World region | Membership <br> (IAP and/or ISC) |
| :--- | :--- | :--- | :--- |
| Argentina | Academia Nacional de Ciencias | Americas | IAP |
| Australia | Australian Academy of Science | Asia-Pacific | IAP and ISC |
| Austria | Austrian Academy of Sciences | Europe | IAP and ISC |
| Bangladesh | Bangladesh Academy of Sciences | Asia-Pacific | IAP and ISC |
| Belgium | Koninklijke Academie voor Geneeskunde van België | Europe | IAP |
| Belgium | Koninklijke Academie voor Nederlandse Taal en Letteren | Europe | IAP |
| Belgium | Koninklijke Vlaamse Academie van België voor <br> Wetenschappen en Kunsten | Europe | IAP |
| Belgium | The Royal Academies for Science and the Arts of Belgium | Europe | IAP and ISC |
| Belgium | Young Academy of Belgium | Europe | Neither |
| Bosnia and <br> Herzegovina | Academy of Sciences and Arts of Bosnia and Herzegovina | Europe | IAP and ISC |

[^1]| Country | Academy | World region | Membership (IAP and/or ISC) |
| :---: | :---: | :---: | :---: |
| Brazil | National Academy of Medicine of Brazil | Americas | IAP |
| Brazil | Brazilian Academy of Sciences | Americas | IAP and ISC |
| Cameroon | Cameroon Academy of Sciences | Africa | IAP and ISC |
| Cameroon | Cameroon Academy of Young Scientists | Africa | Neither |
| Canada | Royal Society of Canada | Americas | IAP |
| Chile | Chilean Academy of Sciences | Americas | IAP and ISC |
| Colombia | Colombian Academy of Exact, Physical and Natural Sciences | Americas | IAP and ISC |
| Croatia | Croatian Academy of Sciences and Arts | Europe | IAP |
| Cuba | Academy of Sciences of Cuba | Americas | IAP and ISC |
| Czech Republic | Czech Academy of Sciences | Europe | IAP and ISC |
| Democratic Republic of the Congo | Academie des Sciences pour les Jeunes en République Démocratique du Congo | Africa | Neither |
| Dominican Republic | Academia de Ciencias de la República Dominicana | Americas | IAP and ISC |
| Egypt | Academy of Scientific Research and Technology | Africa | IAP and ISC |
| Estonia | Estonian Academy of Sciences | Europe | IAP and ISC |
| Ethiopia | Ethiopian Academy of Sciences | Africa | IAP |
| Finland | Young Academy Finland | Europe | Neither |
| France | Académie des Sciences, Institut de France | Europe | IAP and ISC |
| Georgia | Georgian National Academy of Sciences | Asia-Pacific | IAP and ISC |
| Germany | Berlin-Brandenburg Academy of Sciences and Humanities | Europe | IAP |
| Germany | Die Junge Akademie | Europe | Neither |
| Germany | German National Academy of Sciences Leopoldina | Europe | IAP |
| Ghana | Ghana Academy of Arts and Sciences | Africa | IAP and ISC |
| Guatemala | Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | Americas | IAP and ISC |
| Honduras | National Academy of Sciences of Honduras | Americas | IAP and ISC |
| Hungary | Hungarian Academy of Sciences | Europe | IAP and ISC |
| Hungary | Hungarian Young Academy | Europe | Neither |
| India | Indian National Science Academy | Asia-Pacific | IAP and ISC |
| Ireland | Royal Irish Academy | Europe | IAP and ISC |
| Islamic Republic of Iran | Academy of Sciences of the Islamic Republic of Iran | Asia-Pacific | IAP |
| Islamic Republic of Iran | Iranian Academy of Medical Sciences | Asia-Pacific | IAP |
| Israel | Academy of Sciences and Humanities | Asia-Pacific | IAP and ISC |
| Italy | Accademia Nazionale dei Lincei | Europe | IAP |
| Japan | Science Council of Japan | Asia-Pacific | IAP and ISC |
| Latvia | Association of Latvian Young Scientists | Europe | Neither |
| Latvia | Latvian Academy of Sciences | Europe | IAP and ISC |
| Lebanon | Lebanese Academy of Sciences | Asia-Pacific | IAP |
| Lithuania | Lithuanian Academy of Sciences | Europe | IAP and ISC |
| Malaysia | Academy of Sciences Malaysia | Asia-Pacific | IAP and ISC |
| Mexico | Academia Mexicana de Ciencias | Americas | IAP and ISC |
| Mongolia | Mongolian Academy of Sciences | Asia-Pacific | IAP and ISC |


| Country | Academy | World region | Membership (IAP and/or ISC) |
| :---: | :---: | :---: | :---: |
| Netherlands | Royal Netherlands Academy of Arts and Sciences | Europe | IAP and ISC |
| New Zealand | Royal Society Te Apārangi | Asia-Pacific | IAP and ISC |
| Nicaragua | Nicaraguan Academy of Sciences | Americas | IAP |
| Nigeria | Nigerian Academy of Science | Africa | IAP and ISC |
| Nigeria | Nigerian Young Academy | Africa | Neither |
| Norway | Norwegian Academy of Science and Letters | Europe | IAP and ISC |
| Pakistan | National Academy of Young Scientists | Asia-Pacific | Neither |
| Palestine | Palestine Academy for Science and Technology | Asia-Pacific | IAP |
| Peru | Academia Nacional de Ciencias | Americas | IAP and ISC |
| Poland | Polish Young Academy | Europe | Neither |
| Republic of Korea | Korean Academy of Science and Technology | Asia-Pacific | IAP and ISC |
| Republic of Korea | National Academy of Sciences | Asia-Pacific | IAP and ISC |
| Republic of North Macedonia | Macedonian Academy of Sciences and Arts | Europe | IAP and ISC |
| Romania | Academy of Medical Sciences of Romania | Europe | IAP |
| Serbia | Serbian Academy of Sciences and Arts | Europe | IAP and ISC |
| Singapore | Singapore National Academy of Science | Asia-Pacific | IAP and ISC |
| Slovakia | Slovak Academy of Sciences | Europe | IAP and ISC |
| Slovenia | Slovenian Academy of Sciences and Arts | Europe | IAP and ISC |
| South Africa | Academy of Science of South Africa | Africa | IAP |
| South Africa | South African Young Academy of Science | Africa | Neither |
| Sri Lanka | National Academy of Sciences of Sri Lanka | Asia-Pacific | IAP |
| Sweden | Royal Swedish Academy of Sciences | Europe | IAP and ISC |
| Tanzania | Tanzania Academy of Sciences | Africa | IAP |
| Taiwan, China | Academia Sinica | Asia-Pacific | IAP and ISC |
| United Kingdom | Academy of Medical Sciences | Europe | IAP |
| United Kingdom | Royal Society | Europe | IAP and ISC |
| United States of America | National Academy of Medicine | Americas | IAP |
| United States of America | National Academy of Sciences | Americas | IAP and ISC |
| Venezuela | Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela | Americas | IAP |
| Zimbabwe | Zimbabwe Academy of Sciences | Africa | IAP |

Table 2: List of global and regional academies that participated in the 2020 survey

| Country | Academy | Membership <br> (IAP and/or ISC) |
| :--- | :--- | :--- |
| Germany | Global Young Academy | IAP |
| Germany | Young Academy of Europe | Neither |
| Italy | The World Academy of Sciences | IAP and ISC |
| Jordan | Islamic World Academy of Sciences | IAP |
| Trinidad and Tobago | Caribbean Academy of Sciences | IAP and ISC |

In the 2015 survey, 72 academies submitted usable questionnaires. Of these, 48 also completed the 2020 survey, two completed only the demographics part of the 2020 survey, and 22 did not complete the 2020 survey. The overlap of 48 academies between the 2015 and 2020 surveys is important in that in the 2020 survey instrument, completion of the section about activities and actions that have occurred since the 2015 survey was directed only at academies that had participated in the earlier survey. However, there was a discrepancy between the actual statistics given above and self-reported statistics. Four academies did not participate in the 2015 survey and yet the respondents reported that they did. A total of 28 academies did participate in the 2015 survey but the respondents said they did not or did not know. Hence, there is a subset of only 20 academies that provide the basis for the analysis of the results in Section 4.
There are two results sections. The first (Section 4) is devoted to the findings of the academies' survey and the second (Section 5) to the findings of the survey of disciplinary unions and associations.

## 4. Results of the academy survey

### 4.1 Actions and achievements since 2015 IAP survey

Each of the 20 academies that participated in the 2015 survey had to indicate whether the report findings applied to them. They did so by considering four statements, which are presented in Figure 2. As can be seen, the relevant actions were mainly reading of the report by at least one person, and awareness raising among a few senior members. Only six academies responded that the 2015 survey report led to an internal strategic discussion.


Figure 2: Actions that followed from the 2015 IAP survey report ( $\mathrm{N}=20$ )
The four academies that implemented some of the report's recommendations were asked to elaborate, and the responses reflect different stages and facets of implementation:

- Academy of Science of South Africa: Among the actions undertaken by ASSAf were: the development of a Women and Gender in Science Strategy. Support for the OWSD South Africa national chapter and GenderInSITE Africa regional focal point that are hosted by ASSAf to create awareness and implement activities that promote women in science in the country and beyond. There is an indicator on women in science in the academy's five-year strategic plan and annual plans. Quarterly and annual reports are submitted and monitored by the ASSAf Council, the Department of Science and Technologyvi and the Parliamentary Portfolio Committee on Science and Technologyvii. The strategy and awareness activities are continual and ongoing.
- Cameroon Academy of Sciences: They targeted more recruitment of women into the academy and more involvement of women in study/workshop activities.
- German National Academy of Sciences Leopoldina: New measures have been taken to increase the participation of women. The success can be seen in the increased women's membership rate.
- Royal Society of Canada: The academy is in the process of implementing all the report's recommendations.

However, if the responses to the four statements in Figure 2 are extended to include everyone who answered those four statements, whether they were instructed to do so or not, one can see higher incidences of reading and awareness raising but little actual discussion and implementation (Figure 3).


Figure 3: Actions that followed from the 2015 IAP survey report ( $N=57$ )
Some additional academies provided details about how the report has informed their actions and decisions. In some cases, the uptake of the report was instrumental (e.g. it informed a strategic plan or led to the appointment of a woman president). In other cases, the report served as a reminder to academies not to lose momentum in the drive towards improving gender equality.

- Academy of Sciences of Cuba: The academy has widely disseminated the recommendations of the IAP report, sharing mainly the good position of the Cuban Academy in the figures and comparisons, but also highlighting that there exists the possibility of moving backward if we don't keep the activism and underlining gender issues in the internal life of the academy.
- Australian Academy of Science: Since 2014, the academy has been proactive and committed in adopting initiatives that improve gender diversity across all its programmes and activities. Some of the academy's initiatives, such as Science in Australia Gender Equity (SAGE), have now been adopted by many in the research and higher education sector in Australia. Although the academy had started to implement similar activities to those under the "Recommendations" of the 2015 report prior to its publication, the report itself provided an added incentive for the academy to continue its commitment to celebrating excellence in science and supporting equity and inclusion within the fellowship and its numerous programmes and activities.
- Estonian Academy of Sciences: In 2017, the Estonian Young Academy of Sciences was established with a female president until spring 2019.
- South African Young Academy of Science: Gender concerns are included in the academy's strategic plan. Female members are supported to be part of the academy leadership. Gender issues are included as sub-themes during conferences.
- Tanzania Academy of Sciences: The recommendations were considered when formulating the new strategic plan.
Asked what they regarded as the most significant findings of the 2015 report, the respondents highlighted three related themes.
Theme 1: Global comparisons revealed for the first time
- It was a look across countries and across disciplines, which was a welcome approach.
- Extremely helpful data-driven overview of female participation in sister academies.
- Our academy was close to the average percentage of women in academies and the surprising finding that the Cuban Academy had the highest percentage of women.
- The national academy with the largest share of women members is the Cuban Academy of Sciences ( $27 \%$ ). The Cuban Academy also has $40 \%$ representation of women as members of the governing body (Germany: $10 \%$ and $17 \%$ respectively).
- The national academies with the highest proportion of female members are the Cuban Academy of Sciences ( $27 \%$ ) and the Caribbean Academy of Sciences ( $26 \%$ ). The national academies of Mexico, Nicaragua, Peru, Uruguay and Honduras are among the list of the 10 best academies with the highest proportion of female members

Theme 2: Global comparisons provide useful statistics for reporting

- Efforts have been taken to measure the participation of women in academies and actions taken by academies to address the issue of gender diversity. It is significant and useful to provide information on global efforts. International comparisons are included in the academy's President and Chief Executive annual reports to Council, providing data on the diversity of the fellowship and staff. International data are drawn from the IAP report.
Theme 3: Global comparisons present the current status and the relevant evidence has the potential to prompt both established and new academies into action
- The report provides evidence of low representation of women in the academies of science worldwide
- Academies of science should deliberately increase the number of women in their membership and in their leadership.
- Our academy incorporated four women scientists as members in that period.
- It provided the impetus for us as a Young Academy to be aware of these issues and to try and do things differently where possible and take cognizance of the prevailing issues.
- Our academy will only discuss this report in the upcoming General Meeting, as we are still at our early stage of development.


### 4.2 Academy membership

The academies surveyed were asked to provide two sets of statistics. First, the total number of academy members and, second, the number of women academy members. In both instances a "member" was indicated to represent any person who is elected into the academy based on his/her scientific excellence. It is recognized that various academies use different nomenclature for active members elected into an academy as part of the honorific function of academies. Table 3 reports the share of women members for the 85 individual academies that completed the 2020 survey. It also reports the corresponding shares for the $47^{\text {vii }}$ academies that also completed the 2015 survey. Shaded cells indicate academies that did not participate in the 2015 survey.
With the exception of the Academia Nacional de Ciencias in Peru (zero change between 2015 and 2020) and the Mongolian Academy of Sciences (also zero change), all other academies reported a positive change in the proportion of women's membership between 2015 and 2020. The highest positive increases in the shares of women members are associated with the academies in Venezuela ( $+17 \%$ ), Honduras $(+12 \%)$, Guatemala ( $+11 \%$ ) and Japan ( $+11 \%$ ).
The average share of women's representation in 2020, across the same cohort of academies as in the 2015 survey, is $17 \%$, up from $13 \%$ in the 2015 survey. If all senior academies that responded to the 2020 survey are included ( 26 more than in 2015), the average for women's membership is $16 \%$, not very different from the average given above. It is noteworthy that there are 19 academies that have $10 \%$ or less women's membership. The 19 academies are located in 18 countries. An inspection of the share of women researchers in these countries based on statistics presented in Appendix 1, shows that only in the case of the Ethiopian Academy of Sciences does the share of women academy members ( $9 \%$ ) realistically reflect the share of women researchers in the country ( $11.5 \%$ ). In other cases, there is a stark contrast between the share of women academy members and the share of women researchers in that country. Examples are the Macedonian Academy of Sciences and Arts ( $10 \%$ share of members versus $53.4 \%$ share of researchers), the Lithuanian Academy of Sciences ( $7 \%$ versus $49.5 \%$ ) and the Mongolian Academy of Sciences ( $5 \%$ versus 48.9\%).
As noted in Table 3, the academies of young scientists have the largest shares of women members, with the South African Young Academy of Science in first position (57\%), followed by both the Young Academy Finland and the National Academy of Young Scientists of Pakistan in joint second position ( $55 \%$ each). The average share of women's membership of the 13 young academies is $42 \%$. With the exception of three young academies in Africa (Cameroon ( $23 \%$ ), Nigeria ( $16 \%$ ) and the Democratic Republic of Congo ( $15 \%$ )), all are above $40 \%$.
Ten young academies are ranked ahead of the senior academy with the highest number of women members, viz. the Academy of Sciences of Cuba, which has increased its share from $27 \%$ to $33 \%$. However, the share of women academy members in Cuba is still markedly below the $49 \%$ share of women researchers reported for the country in 2018 (see Appendix 1).

[^2]Table 3: Women as a percentage of members of academies, by individual academy (2020 versus 2015)

| Academy | Country | 2020 survey |  |  | 2021 survey |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total members | Women members | $\%$ <br> Women | Total members | Women members | \% <br> Women |  |
| South African <br> Young Academy of Science | South Africa | 49 | 28 | 57\% |  |  |  |  |
| Young Academy Finland | Finland | 74 | 41 | 55\% |  |  |  |  |
| National Academy of Young Scientists | Pakistan | 200 | 110 | 55\% |  |  |  |  |
| Young Academy of Belgium | Belgium | 49 | 25 | 51\% |  |  |  |  |
| Hungarian <br> Young Academy | Hungary | 24 | 12 | 50\% |  |  |  |  |
| Association of Latvian Young Scientists | Latvia | 154 | 74 | 48\% |  |  |  |  |
| Global Young Academy | Germany | 200 | 89 | 45\% |  |  |  |  |
| Young Academy of Europe | Germany | 135 | 60 | 44\% |  |  |  |  |
| Die Junge Akademie | Germany | 50 | 22 | 44\% |  |  |  |  |
| Polish Young Academy | Poland | 32 | 14 | 44\% |  |  |  |  |
| Academy of Sciences of Cuba | Cuba | 375 | 122 | 33\% | 313 | 85 | 27\% | +6\% |
| Koninklijke Academie voor Geneeskunde van België | Belgium | 84 | 26 | 31\% |  |  |  |  |
| Academia <br> de Ciencias <br> Físicas, <br> Matemáticas <br> y Naturales de <br> Venezuela | Venezuela | 42 | 13 | 31\% | 50 | 7 | 14\% | +17\% |
| National Academy of Sciences of Honduras | Honduras | 35 | 10 | 29\% | 29 | 5 | 17\% | +12\% |
| Nicaraguan Academy of Sciences | Nicaragua | 36 | 10 | 28\% | 30 | 7 | 23\% | +5\% |
| National Academy of Medicine | United States of America | 2242 | 631 | 28\% |  |  |  |  |
| Science Council of Japan | Japan | 2210 | 609 | 28\% | 2101 | 361 | 17\% | +11\% |
| Caribbean Academy of Sciences | Trinidad and Tobago | 150 | 40 | 27\% | 223 | 57 | 26\% | +1\% |
| Academy of Science of South Africa | South Africa | 573 | 155 | 27\% | 423 | 101 | 24\% | +3\% |
| Koninklijke <br> Academie voor <br> Nederlandse <br> Taal en <br> Letteren | Belgium | 31 | 8 | 26\% |  |  |  |  |


| Academy | Country | 2020 survey |  |  | 2021 survey |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total members | Women members | \% <br> Women | Total members | Women members | \% <br> Women |  |
| Royal Society of Canada | Canada | 2273 | 558 | 25\% | 2108 | 346 | 16\% | +9\% |
| Academia <br> Mexicana de Ciencias | Mexico | 2832 | 704 | 25\% | 2499 | 587 | 23\% | +2\% |
| Lebanese Academy of Sciences | Lebanon | 29 | 7 | 24\% |  |  |  |  |
| Koninklijke <br> Vlaamse <br> Academie van <br> België voor <br> Wetenschappen en Kunsten | Belgium | 295 | 71 | 24\% |  |  |  |  |
| Cameroon Academy of Young Scientists | Cameroon | 40 | 9 | 23\% |  |  |  |  |
| Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | Guatemala | 87 | 20 | 23\% | 68 | 8 | 12\% | +11\% |
| Slovak <br> Academy of Sciences | Slovakia | 48 | 11 | 23\% |  |  |  |  |
| Academy of Scientific Research and Technology | Egypt | 600 | 125 | 21\% |  |  |  |  |
| National <br> Academy of Sciences of Sri Lanka | Sri Lanka | 146 | 30 | 21\% | 136 | 25 | 18\% | +3\% |
| Academia Nacional de Ciencias | Peru | 116 | 23 | 20\% | 114 | 23 | 20\% | 0\% |
| Latvian <br> Academy of <br> Sciences | Latvia | 416 | 85 | 20\% | 393 | 70 | 18\% | +2\% |
| Norwegian Academy of Science and Letters | Norway | 931 | 188 | 20\% |  |  |  |  |
| Academy of Sciences Malaysia | Malaysia | 376 | 71 | 19\% | 265 | 41 | 15\% | +4\% |
| Academy of Medical Sciences | United Kingdom | 1292 | 248 | 19\% |  |  |  |  |
| The National Academy of Sciences | United States of America | 2403 | 466 | 19\% | 2252 | 294 | 13\% | +6\% |
| Royal Irish Academy | Ireland | 514 | 93 | 18\% | 480 | 69 | 14\% | +4\% |
| The Royal Academies for Science and the Arts of Belgium | Belgium | 338 | 59 | 17\% |  |  |  |  |


| Academy | Country | 2020 survey |  |  | 2021 survey |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total members | Women members | \% <br> Women | Total members | Women members | \% <br> Women |  |
| BerlinBrandenburg Academy of Sciences and Humanities | Germany | 380 | 63 | 17\% |  |  |  |  |
| Colombian Academy of Exact, Physical and Natural Sciences | Colombia | 238 | 41 | 17\% | 190 | 26 | 14\% | +3\% |
| Académie des Sciences, Institut de France | France | 270 | 45 | 17\% | 485 | 38 | 8\% | +9\% |
| Royal Netherlands Academy of Arts and Sciences | Netherlands | 585 | 102 | 17\% | 547 | 74 | 14\% | +3\% |
| Nigerian Young Academy | Nigeria | 43 | 7 | 16\% |  |  |  |  |
| Austrian <br> Academy of Sciences | Austria | 776 | 126 | 16\% | 790 | 105 | 13\% | +3\% |
| Academy of Sciences and Arts of Bosnia and Herzegovina | Bosnia and Herzegovina | 49 | 8 | 16\% | 55 | 8 | 15\% | +1\% |
| Royal Society Te Apārangi | New Zealand | 423 | 68 | 16\% | 446 | 39 | 9\% | +7\% |
| Academie des Sciences pour les Jeunes en République Démocratique du Congo | Democratic Republic of the Congo | 33 | 5 | 15\% |  |  |  |  |
| Chilean <br> Academy of Sciences | Chile | 80 | 12 | 15\% | 75 | 9 | 12\% | +3\% |
| Brazilian <br> Academy of Sciences | Brazil | 938 | 137 | 15\% | 506 | 64 | 13\% | +2\% |
| Academia <br> Nacional de Ciencias | Argentina | 135 | 20 | 15\% |  |  |  |  |
| Royal Swedish Academy of Sciences | Sweden | 622 | 96 | 15\% | 624 | 78 | 13\% | +2\% |
| Australian <br> Academy of Science | Australia | 539 | 80 | 15\% | 479 | 46 | 10\% | +5\% |
| Academia de Ciencias de la República Dominicana | Dominican Republic | 172 | 24 | 14\% | 168 | 22 | 13\% | +1\% |
| German <br> National <br> Academy of Sciences Leopoldina | Germany | 1600 | 223 | 14\% | 1534 | 152 | 10\% | +4\% |


| Academy | Country | 2020 survey |  |  | 2021 survey |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total members | Women members | \% <br> Women | Total members | Women members | \% Women |  |
| The World Academy of Sciences | Italy | 1278 | 177 | 14\% | 1141 | 117 | 10\% | +4\% |
| Ghana Academy of Arts and Sciences | Ghana | 125 | 18 | 14\% | 105 | 12 | 11\% | +3\% |
| Cameroon Academy of Sciences | Cameroon | 87 | 11 | 13\% | 83 | 9 | 11\% | +2\% |
| Academy of Sciences and Humanities | Israel | 132 | 17 | 13\% |  |  |  |  |
| Serbian Academy of Sciences and Arts | Serbia | 135 | 17 | 13\% | 141 | 13 | 9\% | +4\% |
| Islamic World Academy of Sciences | Jordan | 104 | 14 | 13\% | 105 | 9 | 9\% | +4\% |
| Iranian Academy of Medical Sciences | Islamic <br> Republic of Iran | 76 | 9 | 12\% |  |  |  |  |
| Tanzania Academy of Sciences | Tanzania | 129 | 16 | 12\% | 130 | 5 | 4\% | +8\% |
| Academia Sinica | Taiwan, China | 282 | 32 | 11\% |  |  |  |  |
| Georgian National Academy of Sciences | Georgia | 96 | 11 | 11\% | 103 | 8 | 8\% | +3\% |
| Croatian Academy of Sciences and Arts | Croatia | 133 | 15 | 11\% | 150 | 15 | 10\% | +1\% |
| Zimbabwe Academy of Sciences | Zimbabwe | 92 | 10 | 11\% |  |  |  |  |
| Singapore National Academy of Science | Singapore | 37 | 4 | 11\% |  |  |  |  |
| Nigerian Academy of Science | Nigeria | 249 | 24 | 10\% | 160 | 14 | 9\% | +1\% |
| Academy of Medical Sciences of Romania | Romania | 161 | 16 | 10\% |  |  |  |  |
| Royal Society | United <br> Kingdom | 1514 | 146 | 10\% | 1419 | 92 | 6\% | +4\% |
| Accademia Nazionale dei Lincei | Italy | 532 | 51 | 10\% | 530 | 28 | 5\% | +5\% |
| Macedonian Academy of Sciences and Arts | Republic of North Macedonia | 40 | 4 | 10\% |  |  |  |  |
| Czech Academy of Sciences ${ }^{\text {ix }}$ | Czech Republic | 96 | 9 | 9\% |  |  |  |  |

ix The Czech Academy of Sciences responded to the 2015 survey but their statistics have not been included here as they were for the full academy and not for the Learned Society of the Czech Republic, which records elected members.

| Academy | Country | 2020 survey |  |  | 2021 survey |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total members | Women members | \% <br> Women | Total members | Women members | \% Women |  |
| Indian National Science Academy | India | 1044 | 89 | 9\% | 864 | 52 | 6\% | +3\% |
| Ethiopian Academy of Sciences | Ethiopia | 243 | 21 | 9\% | 102 | 5 | 5\% | +4\% |
| Bangladesh Academy of Sciences | Bangladesh | 56 | 5 | 9\% | 85 | 6 | 7\% | +2\% |
| Hungarian Academy of Sciences | Hungary | 758 | 57 | 8\% | 776 | 39 | 5\% | +3\% |
| Estonian Academy of Sciences | Estonia | 75 | 6 | 8\% |  |  |  |  |
| Slovenian <br> Academy of Sciences and Arts | Slovenia | 96 | 8 | 8\% | 95 | 5 | 5\% | +3\% |
| Palestine <br> Academy for <br> Science and <br> Technology | Palestine | 80 | 6 | 8\% | 75 | 5 | 7\% | +1\% |
| Lithuanian <br> Academy of <br> Sciences | Lithuania | 224 | 15 | 7\% |  |  |  |  |
| Korean <br> Academy of Science and Technology | Republic of Korea | 487 | 36 | 7\% |  |  |  |  |
| Mongolian Academy of Sciences | Mongolia | 60 | 3 | 5\% | 63 | 3 | 5\% | 0\% |
| National <br> Academy of <br> Medicine of <br> Brazil | Brazil | 107 | 5 | 5\% |  |  |  |  |
| Academy of Sciences of the Islamic Republic of Iran | Islamic <br> Republic of Iran | 153 | 4 | 3\% |  |  |  |  |
| National Academy of Sciences | Republic of Korea | 141 | 3 | 2\% |  |  |  |  |

The survey included an additional question as to whether the academy admits members in all disciplines or only members in the natural, physical or pure sciences. The share of women for the 64 academies that admit members in all disciplines, including the arts, engineering, humanities and social sciences, is $20.8 \%$. The corresponding share in the case of the 21 academies that admit members only in the natural, physical or pure sciences is $17.3 \%$.
Table 4 compares, for each world region, the mean share of women members in the 85 academies that completed the 2020 survey. On average, the five academies in the global and regional category have the largest share of woman membership ( $29 \%$ ). Their relatively high share is primarily because of the Global Young Academy ( $45 \%$ share) and the Young Academy of Europe (also $45 \%$ ), and to some extent also because of the Caribbean Academy of Sciences (27\%), but less so because of The World Academy of Sciences ( $14 \%$ ) and the Islamic World Academy of Sciences ( $13 \%$ ).
Table 4 also shows the changes between 2015 and 2020 for the 47 academies for which 2015 data are available. All regions reflect a positive change (which ranges between $+3 \%$ and $+5 \%$ ).

Table 4: Women members as a percentage of total members of academies, by region (2020 versus 2015)

| Regions | 2020 survey |  | Matching academies in 2020 \& 2015 surveys |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of <br> academies (85) | $\%$ <br> Women | Number of <br> academies (47) | $\%$ <br> Women 2020 | \% <br> Women 2015 | Change |
| Africa | 12 | $19 \%$ | 6 | $14 \%$ | $11 \%$ |  |
| Americas | 16 | $21 \%$ | 13 | $22 \%$ | $+3 \%$ |  |
| Asia-Pacific | 19 | $15 \%$ | 10 | $14 \%$ | $17 \%$ | $+5 \%$ |
| Europe | 33 | $21 \%$ | 15 | $16 \%$ | $10 \%$ | $+4 \%$ |
|  <br> Regional | 5 | $29 \%$ |  | $18 \%$ | $+5 \%$ |  |

### 4.3 Academy membership by broad discipline

Respondents were asked to specify the number of academy members, as well as the number of women academy members, in nine broad discipline groups. The groups are as follows:

- Agricultural sciences
- Biological sciences
- Computer sciences/information and communications technology (ICT)
- Earth and environmental sciences
- Engineering sciences
- Mathematical sciences
- Medical and health sciences
- Physical and chemical sciences
- Social sciences, humanities and arts

An "all other" option was included to capture an academy's discipline category when there was no match to any of the nine groups provided.
The mean share of women members for each of the nine broad disciplines across all the academies that completed the relevant question in the survey ranges from as high as $28 \%$ (biological sciences) and $27 \%$ (social sciences, humanities and arts) to as low as $10 \%$ (engineering sciences) and $8 \%$ (mathematical sciences) (Figure 4). However, given that there are large size differences between the individual academies as far as the mean share of women members, the median share is also depicted in Figure 4. There are two discipline groups, viz. computer sciences/ICT and mathematical sciences, where the median share of women members per academy equals zero, meaning that at least $50 \%$ of the academies reported no women members in these two categories. Appendix 4 reports the statistics in detail.
Table 5 ignores the breakdown by individual academy and reports the share of women academy members by broad discipline group. Women are 'best' represented in the social sciences, humanities and arts ( $28 \%$ of all members in this discipline, across all academies, are women), followed by the biological sciences ( $20 \%$ ), and the medical and health sciences ( $20 \%$ ). Women's representation as academy members is least in the engineering sciences ( $8 \%$ ) and mathematical sciences ( $7 \%$ ). However, the survey did not specifically target separate academies of engineering, which means that not all academies in the engineering field are represented.
Table 5 also includes a comparison with 61 academies from the 2015 survey that provided field-specific data in that survey. Although the 61 academies (for which field specific data are available) have not been linked one-to-one to the academies from the 2020 survey in Table 8, the table nevertheless reveals positive changes in the overall share of women members between the two time periods. Although the 'other disciplines' category shows a negative change ( $-9 \%$ ), the latter can be safely ignored as this category is the least consistent between the two surveys. Different academy representatives from the same academy across the two surveys might have classified their disciplines differently because of the open-ended nature of this category.


Figure 4: Mean (and median) percentage of women members of academies, by broad discipline group

Table 5: Women as percentage of members of academies, by broad discipline group

| Broad discipline | $\begin{gathered} 2020 \text { survey } \\ \text { (65 academies) } \end{gathered}$ |  |  | $\begin{gathered} 2015 \text { survey } \\ \text { (61 academies) } \end{gathered}$ |  |  | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total number of members | Total number of women members | \% Women members | Total number of members | Total number of women members | \% Women members |  |
| Agricultural sciences | 1302 | 241 | 19\% | 705 | 69 | 10\% | +9\% |
| Biological sciences | 3717 | 753 | 20\% | 3276 | 493 | 15\% | +5\% |
| Computer sciences/ICT | 417 | 53 | 13\% | 599 | 43 | 7\% | +6\% |
| Earth and environmental sciences | 1428 | 186 | 13\% | 1474 | 119 | 8\% | +5\% |
| Engineering sciences | 2012 | 154 | 8\% | 2044 | 111 | 5\% | +3\% |
| Mathematical sciences | 1458 | 108 | 7\% | 1401 | 80 | 6\% | +1\% |
| Medical and health sciences | 5216 | 1021 | 20\% | 3246 | 457 | 14\% | +6\% |
| Physical and chemical sciences | 4377 | 477 | 11\% | 4351 | 342 | 8\% | +3\% |


| Broad discipline | 2020 survey <br> (65 academies) |  |  | 2015 survey <br> (61 academies) |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total number <br> of members | Total number <br> of women <br> members | \% Women <br> members | Total number <br> of members | Total number <br> of women <br> members | \% Women <br> members | Change |
|  | 5589 | 1539 | $28 \%$ | 5218 | 858 | $16 \%$ | $+\mathbf{1 2 \%}$ |
| Other disciplines | 669 | 83 | $12 \%$ | 1142 | 238 | $21 \%$ | $-9 \%$ |

Note: The broad discipline groups are not always mutually exclusive as the same individuals could have been counted in more than one discipline because of multiple disciplinary classifications.

### 4.4 Academy governance

Turning to women's representation in the governance of academies, the average share of women serving on the governing body ( $29 \%$, based on the figures for 2020 in Table 6) is markedly higher than the share of women in the academy membership ( $16 \%$, based on Table 3 ). The corresponding median shares are $27 \%$ and $16 \%$, respectively. This observation is consistent with what can be found in the academic literature on gender representation, where women are reported to be better represented in service positions than in research positions.
The average share of women serving on the governing body ( $29 \%$ for the 85 academies in 2020) also represents an increase over the corresponding share of $21 \%$ for the 46 academies ${ }^{x}$ that participated in the 2015 survey. Comparing the same cohort of 43 academies that participated in both the 2015 and 2020 surveys, the recent share is slightly lower at $28 \%$. This might be indicative of a concerted effort by some academies to involve more women in their governing body.
According to Table 6, the National Academy of Medicine in the US (67\%), together with Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela (67\%) and the Global Young Academy (64\%), have the highest representation of women among the governing body. Given that the numbers of people serving on the governing body are generally small, even a small change in its composition can result in large percentage increases (or decreases). The general trend in Table 6 is large increases overall between 2015 and 2020 in the share of women's representation on the governing bodies. However, it is equally possible for an academy to increase its share over time, not because of more women serving on the body, but because of a change in the total number of people serving on the board. The Royal Society of Canada, for instance, increased its share by $17 \%$ between 2015 and 2020, although the actual number of women on the board (six) remained the same.

Table 6: Women as percentage of members serving on the governing body, by academy

| Country | Academy | 2020 survey |  |  | 2015 survey |  |  | Change | How is governing body elected? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | W | \% W | Total | W | \% W |  |  |
| United States | National Academy of Medicine | 18 | 12 | 67\% | 17 | 8 | 47\% | +20\% | By all members |
| Venezuela | Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela | 6 | 4 | 67\% | 6 | 1 | 17\% | +50\% | Other |
| Germany | Global Young Academy | 11 | 7 | 64\% |  |  |  |  | Other |
| Finland | Young Academy Finland | 8 | 5 | 63\% |  |  |  |  | By all members |
| Belgium | Young Academy of Belgium | 10 | 6 | 60\% |  |  |  |  | By all members |
| Cuba | Academy of Sciences of Cuba | 10 | 6 | 60\% | 10 | 4 | 40\% | +20\% | By all members |
| United Kingdom | Academy of Medical Sciences | 17 | 10 | 59\% |  |  |  |  | By all members |
| United States | National Academy of Sciences | 17 | 10 | 59\% |  |  |  |  | By all members |
| Belgium | Koninklijke Academie voor Geneeskunde van België | 7 | 4 | 57\% |  |  |  |  | By all members |
| Hungary | Hungarian Young Academy | 7 | 4 | 57\% |  |  |  |  | By all members |

[^3]| Country | Academy | 2020 survey |  |  | 2015 survey |  |  | Change | How is governing body elected? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | W | \% W | Total | W | \% W |  |  |
| Pakistan | National Academy of Young Scientists | 7 | 4 | 57\% |  |  |  |  | By a group of members |
| Canada | Royal Society of Canada | 11 | 6 | 55\% | 16 | 6 | 38\% | +17\% | By all members |
| Germany | Young Academy of Europe | 12 | 6 | 50\% |  |  |  |  | By all members |
| Israel | Academy of Sciences and Humanities | 6 | 3 | 50\% |  |  |  |  | By all members |
| Singapore | Singapore National Academy of Science | 4 | 2 | 50\% |  |  |  |  | By a group of members |
| United Kingdom | Royal Society | 23 | 11 | 48\% | 20 | 8 | 40\% | +8\% | By all members |
| Australia | Australian Academy of Science | 17 | 8 | 47\% | 17 | 5 | 29\% | +18\% | By all members |
| Ireland | Royal Irish Academy | 22 | 10 | 45\% | 22 | 8 | 36\% | +9\% | By all members |
| South Africa | South African Young Academy of Science | 9 | 4 | 44\% |  |  |  |  | Other |
| Malaysia | Academy of Sciences Malaysia | 16 | 7 | 44\% | 16 | 4 | 25\% | +19\% | By all members |
| Belgium | Royal Academies for Science and the Arts of Belgium | 21 | 9 | 43\% |  |  |  |  | Other |
| Guatemala | Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | 7 | 3 | 43\% | 6 | 1 | 17\% | 26\% | By all members |
| Nicaragua | Nicaraguan Academy of Sciences | 7 | 3 | 43\% | 30 | 7 | 23\% | +20\% | By all members |
| Peru | Academia Nacional de Ciencias | 7 | 3 | 43\% |  |  |  |  | By a group of members |
| Germany | Die Junge Akademie | 5 | 2 | 40\% |  |  |  |  | By all members |
| Latvia | Association of Latvian Young Scientists | 5 | 2 | 40\% |  |  |  |  | By all members |
| Lebanon | Lebanese Academy of Sciences | 5 | 2 | 40\% |  |  |  |  | By all members |
| Mexico | Academia Mexicana de Ciencias | 5 | 2 | 40\% | 10 | 3 | 30\% | +10\% | By all members |
| South Africa | Academy of Science of South Africa | 13 | 5 | 38\% | 13 | 4 | 31\% | +7\% | By all members |
| Japan | Science Council of Japan | 16 | 6 | 38\% | 16 | 4 | 25\% | +13\% | Other |
| Belgium | Koninklijke Vlaamse <br> Academie van België voor <br> Wetenschappen en Kunsten | 19 | 7 | 37\% |  |  |  |  | By all members |
| Ghana | Ghana Academy of Arts and Sciences | 11 | 4 | 36\% | 11 | 2 | 18\% | +18\% | By all members |
| Czech Republic | Czech Academy of Sciences | 17 | 6 | 35\% | 17 | 4 | 24\% | +11\% | By a group of members |
| Chile | Chilean Academy of Sciences | 6 | 2 | 33\% | 6 | 1 | 17\% | +16\% | By a group of members |
| New Zealand | Royal Society Te Apārangi | 9 | 3 | 33\% | 7 | 1 | 14\% | +19\% | By all members |
| Poland | Polish Young Academy | 3 | 1 | 33\% |  |  |  |  | By all members |
| Netherlands | Royal Netherlands Academy of Arts and Sciences | 6 | 2 | 33\% | 7 | 3 | 43\% | -10\% | By all members |
| Germany | Berlin-Brandenburg Academy of Sciences and Humanities | 16 | 5 | 31\% |  |  |  |  | By a group of members |
| Cameroon | Cameroon Academy of Young Scientists | 10 | 3 | 30\% |  |  |  |  | By all members |
| Norway | Norwegian Academy of Science and Letters | 10 | 3 | 30\% |  |  |  |  | By all members |
| Dominican <br> Republic | Academia de Ciencias de la República Dominicana | 17 | 5 | 29\% | 17 | 5 | 29\% | +0\% | By all members |


| Country | Academy | 2020 survey |  |  | 2015 survey |  |  | Change | How is governing body elected? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | W | \% W | Total | W | \% W |  |  |
| Latvia | Latvian Academy of Sciences | 26 | 7 | 27\% | 30 | 7 | 23\% | +4\% | By a group of members |
| Egypt | Academy of Scientific Research and Technology | 15 | 4 | 27\% | 27 | 2 | 7\% | +20\% | By a group of both members and non-members |
| Sweden | Royal Swedish Academy of Sciences | 15 | 4 | 27\% | 15 | 7 | 47\% | -20\% | By all members |
| Argentina | Academia Nacional de Ciencias | 16 | 4 | 25\% |  |  |  |  | By all members |
| Bosnia and Herzegovina | Academy of Sciences and Arts of Bosnia and Herzegovina | 16 | 4 | 25\% | 16 | 3 | 19\% | +6\% | By all members |
| Croatia | Croatian Academy of Sciences and Arts | 4 | 1 | 25\% | 5 | 1 | 20\% | +5\% | By all members |
| Ethiopia | Ethiopian Academy of Sciences | 12 | 3 | 25\% | 11 | 1 | 9\% | +16\% | By all members |
| Tanzania | Tanzania Academy of Sciences | 12 | 3 | 25\% | 6 | 1 | 17\% | +8\% | By all members |
| Trinidad \& Tobago | Caribbean Academy of Sciences | 12 | 3 | 25\% | 7 | 2 | 29\% | -4\% | By all members |
| Sri Lanka | National Academy of Sciences of Sri Lanka | 17 | 4 | 24\% | 17 | 4 | 24\% | 0\% | By all members |
| Brazil | Brazilian Academy of Sciences | 13 | 3 | 23\% | 13 | 1 | 8\% | +15\% | By all members |
| India | Indian National Science Academy | 31 | 7 | 23\% | 31 | 0 | 0\% | +23\% | By all members |
| Nigeria | Nigerian Academy of Science | 18 | 4 | 22\% |  |  |  |  | By all members |
| Republic of Korea | The Korean Academy of Science and Technology | 18 | 4 | 22\% |  |  |  |  | By all members |
| Belgium | Koninklijke Academie voor Nederlandse Taal en Letteren | 5 | 1 | 20\% |  |  |  |  | By all members |
| Democratic <br> Republic of the Congo | Academie des Sciences pour les Jeunes en République Démocratique du Congo | 10 | 2 | 20\% |  |  |  |  | By all members |
| Honduras | National Academy of Sciences of Honduras | 5 | 1 | 20\% | 3 | 1 | 33\% | -13\% | By a group of members |
| North Macedonia | Macedonian Academy of Sciences and Arts | 11 | 2 | 18\% |  |  |  |  | By all members |
| Germany | German National Academy of Sciences Leopoldina | 12 | 2 | 17\% | 12 | 2 | 17\% | 0\% | By a group of both members and non-members |
| Taiwan | Academia Sinica | 72 | 11 | 15\% |  |  |  |  | By all members |
| Bangladesh | Bangladesh Academy of Sciences | 13 | 2 | 15\% | 13 | 2 | 15\% | 0\% | By all members |
| France | Académie des Sciences, Institut de France | 7 | 1 | 14\% | 7 | 1 | 14\% | 0\% | By all members |
| Georgia | Georgian National Academy of Sciences | 14 | 2 | 14\% | 20 | 1 | 5\% | +9\% | By all members |
| Italy | The World Academy of Sciences | 15 | 2 | 13\% | 14 | 3 | 21\% | -8\% | By all members |
| Slovakia | Slovak Academy of Sciences | 15 | 2 | 13\% |  |  |  |  | Other |
| Palestine | Palestine Academy for Science and Technology | 23 | 3 | 13\% | 6 | 1 | 17\% | -4\% | By all members |
| Italy | Accademia Nazionale dei Lincei | 8 | 1 | 13\% | 8 | 0 | 0\% | +13\% | Other |
| Colombia | Colombian Academy of Exact, Physical and Natural Sciences | 9 | 1 | 11\% | 7 | 2 | 29\% | -18\% | By all members |
| Nigeria | Nigerian Young Academy | 10 | 1 | 10\% |  |  |  |  | By all members |


| Country | Academy | 2020 survey |  |  | 2015 survey |  |  | Change | How is governing body elected? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | W | \% W | Total | W | \% W |  |  |
| Zimbabwe | Zimbabwe Academy of Sciences | 10 | 1 | 10\% |  |  |  |  | By all members |
| Cameroon | Cameroon Academy of Sciences | 11 | 1 | 9\% | 9 | 0 | 0\% | 9\% | By all members |
| Iran | Iranian Academy of Medical Sciences | 22 | 2 | 9\% |  |  |  |  | By all members |
| Jordan | Islamic World Academy of Sciences | 11 | 1 | 9\% | 11 | 1 | 9\% | 0\% | By all members |
| Slovenia | Slovenian Academy of Sciences and Arts | 13 | 1 | 8\% | 13 | 0 | 0\% | 8\% | By a group of members |
| Brazil | National Academy of Medicine of Brazil | 15 | 1 | 7\% |  |  |  |  | By all members |
| Hungary | Hungarian Academy of Sciences | 30 | 2 | 7\% | 33 | 1 | 3\% | +4\% | Other |
| Mongolia | Mongolian Academy of Sciences | 17 | 1 | 6\% | 17 | 1 | 6\% | 0\% | By all members |
| Austria | Austrian Academy of Sciences | 4 | 0 | 0\% | 4 | 1 | 25\% | -25\% | By a group of members |
| Estonia | Estonian Academy of Sciences | 16 | 0 | 0\% |  |  |  |  | By all members |
| Iran | Academy of Sciences of the Islamic Republic of Iran | 3 | 0 | 0\% |  |  |  |  | By a group of members |
| Lithuania | Lithuanian Academy of Sciences | 8 | 0 | 0\% |  |  |  |  | By a group of members |
| Republic of Korea | National Academy of Sciences | 11 | 0 | 0\% |  |  |  |  | By all members |
| Romania | Academy of Medical Sciences of Romania | 5 | 0 | 0\% |  |  |  |  | By all members |
| Serbia | Serbian Academy of Sciences and Arts | 6 | 0 | 0\% | 13 | 1 | 8\% | -8\% | By all members |

Since the survey also collected information on whether the academy admits members in all disciplines or only members in the natural, physical or pure sciences, the additional information was analyzed with the representation of women on the governing bodies in mind. It was found that the share of women on the governing body, in the case of the 21 academies that admit members in selected disciplines only $(32.8 \%)$, is higher than the corresponding share ( $28.4 \%$ ) for the 64 academies that admit members in all disciplines

The leadership profile of academies and women's representation was also probed. Respondents were asked whether the academy is governed by a president/chair and/or co-chairs. Of the 73 academies that are governed by a president/chair, $15(20 \%)$ of them reported a woman currently in that position. Where an academy is governed by co-chairs, as was the case for six of the surveyed academies, all of them reported at least one woman as a co-chair (with one academy reporting two women as co-chairs).

### 4.5 Gender-related strategies and activities

Academies were asked about the existence of academy-specific documents and initiatives that could accelerate women's participation in the academy's activities. The first was whether the academy had any document (e.g. strategy, policy or founding document) that explicitly mentions the need for increased participation of women in the academy's activities. Of the 84 academies ${ }^{\text {xi }}$ that answered either question, $36 \%$ (or 30 ) responded in the affirmative.
The 30 academies that confirmed the presence of a gender policy or document that promotes greater participation by women, also provided details about the relevant document, as well as specifying the driving force behind the document. The details appear in Appendix 5 and reveal a wide variety of documents. Strategic plans are frequently mentioned; some are stand-alone strategies or policies for gender and/or diversity issues, whereas others include gender or diversity statements/sections/chapters

[^4]in a general strategic plan. Research reports are also mentioned as well as other sets of regulations and procedures for academies, which contain some reference to the need for gender representation and participation. Most of the documents listed are relatively recent, although some date back as far as 1991, 2005 and 2009. In addition, the driving forces for the development of the document appear to be mainly academy-related (i.e. internal to the academy), while a few were driven by government policy.
The second initiative enquired about in the survey was whether the academy hosts any 'Women in Science' award. Twenty ( $24 \%$ ) out of 84 academies responded that it was indeed the case. Appendix 6 lists the academies by country and region, together with an indication of how often the award is presented. In most cases it is presented annually.
A third initiative enquired about in the survey was whether the academy has any fellowships or grants specifically devoted to women. Nine ( $11 \%$ ) academies confirmed that this was the case. The examples provided appear in Appendix 7.
Asked if they have any programmes/initiatives on women in science, 39 ( $46 \%$ ) of the 84 academies responded positively. The programmes and initiatives are wide-ranging, as is evident from the descriptions in Appendix 8. For some academies, the relevant programmes and initiatives are informed by their being the focal points and national chapters of global and regional organizations/initiatives such as OWSD, GenderInSITE and TWAS. A few academies have also established a commission for women in science, whereas, for others, relevant initiatives relate to the organization of specific events such as summits, international conferences and communication campaigns. The nature of the initiatives are both inward looking (e.g. how the academy can improve its gender and diversity representation) and outward looking (e.g. activities to empower the girl child and women in communities, interventions in higher education and research institutions, and the development of national frameworks such as a decadal plan for women in science).
The survey also included a set of statements on women's issues, with one broadening to consider gender awareness, where academies had to indicate whether the statements were reflective of their organization. The six statements and the extent of agreement across all academies are presented in Figure 5. A breakdown of responses by region is provided in Appendix 9.


Figure 5: How academies address women's issues ( $N=84$ )

About $40 \%$ of academies address women's issues through linkages with one or more international organization(s)/networks that promote(s) women's activities. This is the case for 13 of the 16 academies in the Americas (Appendix 10) but less so for Europe, where only seven of the 33 academies in that region reported that strategy. In the Americas, the strong focus of IANAS, as a regional group, on women in science and their over 20-year history of undertaking gender-focused studies and advocacy, is significant. It is noted that there is generally a stronger focus on organizations and issues that promote women's issues than the application of a 'gender lens'.
In terms of the international organizations or networks that promote women's activities in science and with which the academies have linkages (Appendix 10), the typical ones are IAP, IANAS, ISC, OWSD and TWAS. Other organizations mentioned include UNESCO, the European Federation of Academies of Sciences and Humanities, the European Institute for Gender Equality, the International Human Rights Network of Academies and Scholarly Societies, the International Network for Availability of Scientific Publications, and NASAC.
Appendix 11 provides additional information about the committees that address women's issues at academies. Some academy representatives merely listed the name of the relevant committee whereas others provided information about either the composition or activities of the committee. What seems clear is that the committees primarily prioritize women and gender issues. A focus on broader issues of diversity and inclusion, as part of the function and responsibility of a committee, was mentioned by seven academies only. They are the Australian Academy of Science, Austrian Academy of Sciences, Young Academy of Belgium, Royal Society of Canada, Royal Irish Academy, Royal Society in the UK, and the National Academy of Medicine in the US.
Appendix 12 elaborates on the national organizations and networks that the academies link up with to promote women's activities. These include government ministries, societies or networks promoting women in science and gender groups at universities, amongst others.
Information about the national and international women's day celebrations, as mentioned by the survey respondents are elaborated upon in Appendix 13. Two international days of celebration dominate, namely 11 February (International Day of Women and Girls in Science) and 8 March (International Women's Day). The upcoming 50th anniversary of the International Women's Year in 2025 was also mentioned. Some academies also have national celebrations on other days, such as Ada Lovelace Day in the United Kingdom (UK), which is held every year on the second Tuesday of October, and National Women's Day in South Africa, which is on 9 August each year. The forms of celebration are diverse. These include devoting an entire month (as opposed to a single day) to awareness raising, posting celebrations on social media, having award ceremonies for women scientists, facilitating public lectures and talks by prominent and early-career women scientists on their career trajectories, hosting a conference to drive the implementation of a Women in STEM (science, technology, engineering and mathematics) Decadal Plan, and providing for a range of educational and parental engagement activities. In one instance, the female employees of an academy are treated to an all-expenses paid weekend trip, and in another instance, the women receive flowers.
Appendix 14 highlights the organizations that the academies link up with to promote the application of a 'gender lens' in their activities. Many of the organizations listed are international ones already mentioned previously (e.g. GenderInSITE, IANAS, ISC, OWSD, NASAC and UNESCO). Some of them are donor-related (e.g. the link between the Ethiopian Academy of Sciences and the David and Lucile Packard Foundation), whereas others are based on shared national experiences and concerns. Examples of the latter type of linkages are between the Young Academy of Belgium and Belgian Women in Science, the Royal Society of Canada and the Canadian Tri-Councils, and the Royal Netherlands Academy of Arts and Sciences and the Dutch Network of Women Professors.

Of the 84 academies, 21 ( $25 \%$ ) indicated that they had published, since 2016, a report that specifically addresses issues related to women or gender. The details about the reports appear in Appendix 15.
Nineteen of the 85 academies ( $22 \%$ ) have a document of some kind that addresses sexual harassment in the workplace (Appendix 16). A dedicated (stand-alone) policy on sexual harassment is a very recent development at a few academies, for example, the Ethiopian Academy of Sciences, the Royal Society of Canada, the Australian Academy of Science, and the Academy of Medical Sciences in the UK. What is more common, though, is for sexual harassment to be addressed as part of a human resources policy or workplace policy, under conditions of service or code of conduct. Some academies also made mention of relevant structures dealing with issues of sexual harassment at the academy, such as a committee for sexual harassment of women (Indian National Science Academy), an equal opportunities officer (Die Junge Akademie, Germany) and an external confidential counsellor (Royal Netherlands Academy of Arts and Sciences). It is also noted that in May 2021 it was reported that for the first time the US National Academies of Science had expelled a member who had been found guilty of sexual harassment.xii

[^5]The academies were asked to express their extent of agreement with nine statements about the participation of women in their academy's activities (Figure 6). Although the responses lean strongly to the positive side as more than half of the academies either agreed or strongly agreed with eight of the nine statements, there are issues of concern. For instance, relatively large shares of academies ( $11 \%$ to $29 \%$ ) prefer to remain neutral about some of the issues raised. It is also evident that there is a stronger drive towards accomplishing female representation (e.g. 'focusing on the numbers'), than a broader focus on integrating a gender dimension into the activities and functions of an academy.
In terms of structures, between $74 \%$ and $83 \%$ of academies either agreed or strongly agreed that their academy is working towards ensuring more women at decision-making levels, and in panels and committees. However, in terms of women's representation in the nomination pool for membership, as well as in the nomination pool for prizes and awards, the corresponding figures are lower at $62 \%$ and $61 \%$ respectively. Overall, the academies' alignment with Sustainable Development Goal 5 (gender equality) of the United Nations (UN) is relatively low (46\% who agreed or strongly agreed, with an additional 20\% stating that it does not apply to their academy). The same concern applies to the application of a 'gender lens' in the work of an academy ( $55 \%$ either agreed or strongly agreed).


Figure 6: Extent of agreement with statements about the participation of women in academy activities

### 4.6 Diversity and inclusivity

With regard to diversity and inclusivity issues (Figure 7), there are expressed commitments by relatively small percentages of academies but little action (e.g. the appointment of an advisor on diversity issues; $15 \%)$.


Figure 7: Academies' views on diversity and inclusivity issues

### 4.7 General remarks about role of women and gender-related issues

Finally, the academies were given an opportunity to make additional comments about the role of women and gender-related issues in their academy's activities (Appendix 17). Some of the highlights are:

- Production of an annual diversity report - UK Academy of Medical Sciences, Australian Academy of Science
- Broadening of gender issues to include a range of characteristics such as ethnicity, race, sexual orientation, geography etc. - UK Academy of Medical Sciences, South African Young Academy of Science
- Assisting government with their reporting on women in science - Academy of Science of South Africa
- Use of images of women scientists in their promotional work - UK Royal Society

The Australian Academy of Science stands out as the academy that has the greatest number of initiatives to address gender equity. These include, inter alia, a pledge for study panel members, communications and outreach strategies that strive for equity of voice, and the offering of grants and in-house care services to encourage greater involvement by those with caring responsibilities. The UK Academy of Medical Sciences also features as a strong champion. It is worth noting that both these countries have embraced the Athena SWAN (Scientific Women's Academic Network) programme.

## 5. Results of the survey of disciplinary unions and associations

### 5.1 The participating disciplinary organizations

A total of 38 ISC-affiliated international disciplinary unions and associations completed and submitted questionnaires for analysis. Their names are presented in Table 7, together with other information that will be discussed under separate headings that follow.

Table 7: ISC-affiliated unions and associations that participated in the survey

| Organizations | Membership (country and/or individual) | Number of countries in which represented |
| :---: | :---: | :---: |
| Association of Science and Technology Centres | I | - |
| European Consortium for Political Research | C \& I | 50 |
| International Arctic Science Committee | C | 23 |
| International Commission for Optics | C | 60 |
| International Council for Industrial and Applied Mathematics | C | 50 |
| International Council on Laboratory Animal Science | C \& I | 55 |
| International Federation of Library Associations and Institutions | C \& I | 153 |
| International Geographical Union | C | 59 |
| International Institute for Applied Systems Analysis | C | 24 |
| International Mathematical Union | C | 90 |
| International Peace Research Association | I | - |
| International Political Science Association | C \& I | 110 |
| International Sociological Association | C \& I | 65 |
| International Statistical Institute | C \& I | 113 |
| International Studies Association | I | - |
| International Union for Pure and Applied Biophysics | C | 72 |
| International Union for the Scientific Study of Population | I | - |
| International Union of Basic and Clinical Pharmacology | C | 63 |
| International Union of Biological Sciences | C | 30 |
| International Union of Crystallography | C | 50 |
| International Union of Forest Research Organizations | C \& I | 127 |
| International Union of Geodesy and Geophysics | C | 73 |
| International Union of Geological Sciences | C | 123 |
| International Union of History and Philosophy of Science and Technology | C | 45 |
| International Union of Immunological Societies | C | 79 |
| International Union of Materials Research Societies | C | 14 |
| International Union of Physiological Sciences | C |  |
| International Union of Psychological Science | C | 89 |
| International Union of Pure and Applied Chemistry | C \& I | 54 |
| International Union of Pure and Applied Physics | C \& I | 60 |
| International Union of Radio Science | I | - |
| International Union of Soil Sciences | C \& I | 64 |
| International Water Association | I | - |
| Pacific Science Association | C | 29 |
| Society for Social Studies of Science | I | - |


| Organizations | Membership <br> (country and/or <br> individual) | Number of countries in <br> which represented |
| :--- | :---: | :---: |
| Society for the Advancement of Science in Africa | I | - |
| Sudanese National Academy of Sciences | I |  |
| World Anthropological Union/International Union of Anthropological and <br> Ethnological Sciences | C \& I | 80 |

Note: The Sudanese National Academy of Sciences is a national academy and should have been reported on in Section 4. However, the academy did not complete the academy survey but the union survey and for that reason is included here. Gaps refer to missing responses from organizations.

### 5.2 Disciplinary organization membership

Membership of unions and associations can be either countries or individuals/individual organizations, or both. Eighteen ( $47 \%$ ) have only countries as members, 11 ( $29 \%$ ) have both countries and individuals, and 9 ( $24 \%$ ) have only individual membership. Table 7 presents the membership details. Those with only countries as members reported, on average, being represented in about 57 countries per disciplinary organization, although there is a wide range between 14 and 153 countries (Table 7). Disciplinary organizations with individuals as members have, on average, about 6650 members (with a median number of 1600 ). Again, there is a wide range in the number of individual members, from 70 to 60000 .
The disciplinary organizations were asked whether their member-countries have national chapters/ committees, with $71 \%$ responding that their disciplinary organization had a national chapter/committee in more than 20 countries (Figure 8). The disciplinary organizations are best represented in Asia and Europe.


- $<5$
- 6 to 10
- 11 to 20
- $>20$
- Do not know

Figure 8: Percent of disciplinary organizations ( $N=38$ ) reporting the existence of national chapters/committees

### 5.3 Attendance of General Assembly

Scientific unions have a more decentralized mode of operation than academies and the General Assembly fulfills an important function in gathering members, hence attendance is relevant. Attendance by the disciplinary organizations at their last General Assembly is relatively good, with just less than half of the disciplinary organizations ( $49 \%$ ) reporting that at least three-quarters of their members were represented in the last General Assembly (Figure 9).


Figure 9: Approximate percentage of members that attended the organization's last General Assembly ( $\mathrm{N}=37$ )

The collection of sex-disaggregated data for participants at the last General Assembly is not a priority based on responses received. Fifty-eight percent had no such data, and where such data were available, only $11 \%$ reported that the percentage of women attendees at the General Assembly exceeded $50 \%$ (Figure 10).


Figure 10: Whether disciplinary organization has gender/sex-disaggregated data for participants at the last General Assembly (if yes, percentage woman attendees in bracket) ( $N=38$ )

### 5.4 Governance of the disciplinary organizations

Table 8 reports the percentage of women serving on the governing bodies of disciplinary organizations. For 10 of the 38 disciplinary organizations, the figure equals or exceeds $50 \%$. Generally, social sciences organizations are ranked highest; the International Union of Immunological Societies is an exception, having $75 \%$ women members of their governing body. Disaggregating data for social sciences and physical/natural sciences organizations, the mean share of women on the governing body is $67 \%$ for the former and $24 \%$ for the latter. Those with less than a $10 \%$ share are the International Union of Biological Sciences, the International Mathematical Union, the International Union of Soil Sciences, and the International Union of Radio Science. Of particular concern is the International Union of Biological Sciences ( $9 \%$ women members of their governing body), given women's significant presence and impact in the field.

Table 8: Percentage of women on the governing body of disciplinary organizations

| Disciplinary organization | Members on <br> Governing Body | Women <br> members on <br> Governing Body | \% <br> Women <br> members | Election of <br> Governing Body |
| :--- | :---: | :---: | :---: | :---: |
| Society for Social Studies of Science | 15 | 12 | $80 \%$ | All members |
| International Union of History and <br> Philosophy of Science and Technology | 4 | 3 | All members |  |
| International Union of Immunological <br> Societies | 4 | 3 | 15 | $75 \%$ |
| International Sociological Association | 21 | 18 | 12 | Group of members <br> Inssociations and of <br> research networks |
| International Federation of Library <br> Associations and Institutions | 21 |  | $67 \%$ | Group of both members <br> and non-members |
| World Anthropological Union/International <br> Union of Anthropological and Ethnological <br> Sciences |  |  | 13 | All members |
| International Peace Research Association | 25 |  |  |  |


| Disciplinary organization | Members on Governing Body | Women members on Governing Body | \% Women members | Election of Governing Body |
| :---: | :---: | :---: | :---: | :---: |
| Pacific Science Association | 31 | 16 | 52\% | National Member Organizations select designated representatives to Council |
| which elects the Executive Board. |  |  |  |  |
| Association of Science and Technology Centres | 14 | 7 | 50\% | Group of members |
| International Studies Association | 50 | 25 | 50\% | All members |
| International Council on Laboratory Animal Science | 15 | 7 | 47\% | All members |
| Society for the Advancement of Science in Africa | 11 | 5 | 45\% | All members |
| International Union of Psychological Science | 14 | 6 | 43\% | All members |
| European Consortium for Political Research | 12 | 5 | 42\% | Each member university appoints an official representative who has voting rights |
| International Union for the Scientific Study of Population | 12 | 5 | 42\% | All members |
| International Union of Basic and Clinical Pharmacology | 8 | 3 | 38\% | All members |
| International Water Association | 14 | 5 | 36\% | All members |
| International Union of Physiological Sciences | 20 | 7 | 35\% | All members |
| International Council for Industrial and Applied Mathematics | 6 | 2 | 33\% | All members |
| International Institute for Applied Systems Analysis | 24 | 8 | 33\% | Governing Board is not elected - consists of members nominated by the national member organizations |
| International Union of Crystallography | 9 | 3 | 33\% | All members |
| International Union of Forest Research Organizations | 21 | 7 | 33\% | Group of members |
| International Union of Pure and Applied Chemistry | 29 | 9 | 31\% | Group of members |
| International Union of Geological Sciences | 10 | 3 | 30\% | All members |
| International Political Science Association | 18 | 5 | 28\% | Council (represented by all member countries) elects Executive Committee |
| International Geographical Union | 11 | 3 | 27\% | All members |
| International Union of Geodesy and Geophysics | 16 | 4 | 25\% | Group of members |
| International Union of Pure and Applied Physics | 16 | 4 | 25\% | All members |
| Sudanese National Academy of Sciences | 12 | 3 | 25\% | Group of members |
| International Commission for Optics | 21 | 5 | 24\% | All members |
| International Arctic Science Committee | 5 | 1 | 20\% | All members |
| International Union of Materials Research Societies | 20 | 4 | 20\% | All members |
| International Statistical Institute | 6 | 1 | 17\% | All members |
| International Union for Pure and Applied Biophysics | 17 | 2 | 12\% | All members |


| Disciplinary organization | Members on <br> Governing Body | Women <br> members on <br> Governing Body | \% <br> Women <br> members | Election of <br> Governing Body |
| :--- | :---: | :---: | :---: | :--- |
| International Union of Biological Sciences | 11 | 1 | Only representatives of <br> national members elect <br> the Governing Body, not <br> scientific members |  |
| International Mathematical Union | 11 | 1 | All members |  |
| International Union of Soil Sciences | 25 | 2 | 0 | $8 \%$ |
| International Union of Radio Science | 7 |  | $0 \%$ | Group of members |

The frequency of electing a governing body varies as indicated in Figure 11. Most governing bodies meet once a year ( $40 \%$ ), with nearly half of the disciplinary organizations meeting more frequently (Figure 12)..


Figure 11: Frequency of electing governing body ( $N=38$ )


Figure 12: Frequency of meetings of governing body ( $N=38$ )

Thirty-seven percent of disciplinary organizations currently have a woman president and $39 \%$ currently have a woman occupying the position of executive director/secretary. Both these percentages have increased when compared with the immediate past percentages, viz. $32 \%$ in the case of president and $16 \%$ in the case of executive director/secretary.

### 5.5 Gender-related strategies and activities

Asked whether they have any document (strategy, policy, founding document, etc.) that explicitly mentions the need for increased participation by women in their activities, 31 of the 38 disciplinary organizations answered the question (yes/no), with 14 (or 45\%) responding in the affirmative. Appendix 18 provides the details of the documents referenced.
The documents differ in nature, ranging from strategic plans and mission statements to guidelines for support at scientific conferences and meetings. Four of the disciplinary organizations have established
working groups on women and gender, namely the International Studies Association, the International Union of Immunological Societies, the International Union of Pure and Applied Physics, and the Pacific Science Association. The latter two have the longest commitments, dating back to 1991 and 1999 respectively.
A total of 33 disciplinary organizations responded to the question on whether they had published a report that specifically addresses issues related to women or gender. Of these, 21 (64\%) responded in the affirmative. The relevant details for 20 disciplinary organizations appear in Appendix 19. Responses included articles in internal newsletters, an exhibition profiling women researchers (International Commission for Optics), participation in a collaborative ISC-funded project on the Gender Gap in Science, which produced a final report (six unions), reports on gender and diversity related to specific disciplines (e.g. water and forestry), and refereed journal papers.

For disciplinary organizations with a secretariat, they were asked to indicate whether a sexual harassment in the workplace policy exists. Of the 36 disciplinary organizations that responded, 15 ( $42 \%$ ) pointed to the existence of such a policy, the details of which appear in Appendix 20.
The disciplinary organizations were furthermore requested to provide a list of current or past projects and activities/workshops where there was a specific gender focus (Appendix 21). The responses revealed another disciplinary organization with a committee that is devoted to gender-related issues, namely the International Institute for Applied Systems Analysis (with its Committee on Cultural Diversity and Building a Positive Work Environment). Such committees and working groups tend to drive projects with a gender focus, as is clear from the responses of the International Sociological Association and the International Union of Pure and Applied Physics.
For disciplinary organizations in the social sciences, gender-related topics appear to be part of the research conducted by those disciplinary organizations' members. This is the case for both the International Peace Research Association and the Society for Social Studies of Science. A close alignment with gender topics also seems to apply to multi-disciplinary areas of research, such as Antarctic research, as the International Arctic Science Committee has specific projects on gender in polar research, and gender equality in the Arctic. Moreover, the World Anthropological Union/International Union of Anthropological and Ethnological Sciences have structures called 'scientific commissions' that bring together related streams of topics dealing with issues of gender (specifically the Commission on Anthropology of Women, and the Commission on Global Feminisms and Queer Politics).
In addition to specific national initiatives with a focus on gender (e.g. those of the Association of Science and Technology Centres), focused meetings, roundtable discussions and symposia (often at conferences) are other popular initiatives, together with publications.
The disciplinary organizations also had to estimate, to the best of their knowledge, the proportion of their projects/activities that are led by women (Figure 13). In addition, they also provided examples of gender-related activities conducted by their national chapters (or their equivalent)(Appendix 22). Many responded that it was not possible to document all the gender-related activities of national chapters as they were so numerous, but clearly initiatives of the international body influence activities undertaken at the national level.


Figure 13: Proportion of disciplinary organizations' projects/activities that are led by women ( $N=38$ )
Twelve disciplinary organizations out of 38 (or $32 \%$ ) indicated that they have grants, fellowships or awards specifically for women. The examples as provided appear in Appendix 23. They include travel grants, awards/prizes and research grants.
Two disciplinary organizations did not answer a question about the existence of any committee, research board or similar structure with a specific focus on women in science issues. Of the 36 that responded, 19
(53\%) said, yes, they do have such structures (Appendix 24).
Twenty-two out of 37 disciplinary organizations (or 59\%) reported an initiative and/or advocacy/ networking activity aimed at the promotion of gender equality in science. Examples of such initiatives are provided in Appendix 25.
They were also asked whether their disciplinary organizations or the individuals in their governing body participate in international initiatives on gender equality and empowerment of women. They had to select from seven well-known initiatives but could also provide their own. From the provided list (Figure 14), participations in the "International Day for Women and Girls in Science" as well as the UNESCO activities were the most 'popular' (respectively selected by nine and seven out of 38 respondents).

40

30

20



Figure 14: International initiatives on gender equality and empowerment of women in which the disciplinary organizations or the individuals in the governing bodies participate ( $N=38$ )

The extent of agreement with five statements about women's inclusion and participation reveals a stronger inclination towards ensuring women's participation and representation in events, committees and governing structures, than to meeting SDG 5 targets or having more women nominated for prizes (Figure 15).


Figure 15: Extent of agreement with five statements about women's inclusion and participation within disciplinary organizations ( $N=38$ )

### 5.6 Diversity and inclusivity

The disciplinary organizations were presented with nine statements related to gender, inclusivity and diversity issues and were asked to indicate for each whether the statement applied to their organization. According to Figure 16, commitment to diversity and inclusivity issues is high ( $68 \%$ ), but actions and activities are trailing far behind ( $32 \%$ or below). Only $16 \%$ of disciplinary organizations reported the availability of a budget to implement activities related to gender equality. Unless funds are made available to support gender transformation, the risk of policies becoming rhetoric rather than leading to meaningful change, remains high. Twenty-six percent of disciplinary organizations also chose not to answer this question.


Figure 16: Whether disciplinary organizations address gender/diversity issues ( $N=38$ )
Examples of how they address gender/diversity issues are provided in Appendix 26, either through a committee, policy, practice, etc. Additional comments provided about the role of women or genderrelated issues in the disciplinary organization's activities appear in Appendix 27.
A focus on intersectionality in disciplinary organizations means that gender is not the sole diversity issue for consideration. According to the International Union of Forest Research Organizations, regional representation is equally important and if both region and sex are considered, the result will be an underrepresentation of women in certain regions because of the small numbers of women in forestry in those regions. The International Union for the Scientific Study of Population raised a similar point in regard to the numbers of men and women researchers in population studies in certain regions. Age or career stage is another variable of intersectionality. For the International Union of Pure and Applied Physics, the average age of women scientists in a certain field (e.g., more younger or early career scientists in Physics)
has an effect on the nomination pool for prestigious awards that are typically associated with established scientists.

The International Union of Pure and Applied Chemistry underscores the fact that attitudes and activities on gender issues differ according to regions and cultures. As the disciplinary organization has members across the different regions, incorporating different cultures, they cannot enforce a single 'one size fits all approach', but would need to consider regional initiatives. Similarly, the respondent from the International Union of Materials Research Societies answered that the different national member adhering bodies, rather than the board of the global disciplinary organization, have the responsibility for addressing gender equity issues in their own midst.

### 5.7 Monitoring and evaluation

Only one disciplinary organization stated that it had been evaluated on its performance and action to promote women's participation and gender equality in science. The International Political Science Association regularly publishes a Gender and Diversity Monitoring Report (https://www.ipsa.org/ publications/ipsa-gender-diversity-monitoring-report). Slightly more than half of the 38 respondents ( 20 , or $53 \%$ ) claimed that they regularly monitor women's participation among their membership.
Disciplinary organizations with a structure for dealing with women's issues tend to be more likely to regularly monitor women's participation among its membership than those without such a structure ( $58 \%$ versus $47 \%$ respectively). However, the inverse is also true - even with a relevant structure in place, $42 \%$ of disciplinary organizations still do not monitor.

## 6. Conclusions and recommendations

This report presents the results of both a survey of academies and a survey of international disciplinary unions and associations in terms of gender equality. It was spearheaded and coordinated by GenderInSITE and represents a collaboration with IAP and ISC. Together, the individual organizations surveyed, be they academies, disciplinary unions or associations, through their membership of international bodies such as IAP and ISC, represent a large proportion of global scientific endeavour. In total, they represent over 250 unique organizations that are coordinated at a global level.
As mentioned in a previous GIS reportxiii, these global organizations, such as IAP and ISC, "define the international landscape by convening national science bodies (e.g. academies of sciences), disciplinary bodies (e.g. scientific unions) and regional mechanisms/frameworks (e.g. regional networks) to mobilise international science to tackle global challenges. These organisations have significant upward influence over high-level policy frameworks, including within the UN as reflected for instance, in the ICSU ISSC WFEO co-organisation of the Scientific and Technological Community (STC) Major Group to the UN. They also exert downward influence in shaping how gender is conceptualised in lower levels of the scientific system around the world."
The survey results therefore provide important baseline information for a transformative action agenda for gender equality in global science. Both IAP and ISC are highly influential bodies: together they have the power to be forceful change-makers and leaders, with the potential to create a coalition for gender equality in global science. The recommendations that follow are crafted with such a coalition in mind and chart the way forward for an ongoing collaboration that can lead to meaningful transformation.

## - Extension of survey

This study involved distributing surveys to members of two large global science organizations, IAP and the ISC. While ambitious in scope, it excluded some important actors in the global science arena, such as the agencies of the Global Research Council (GRC), members of the World Federation of Engineering Organizations (WFEO) and engineering academies that are members of the International Council of Academies of Engineering and Technological Sciences (CAETS). A more inclusive and comprehensive understanding of gender equality in global science would be gained by supplementing the results of the current study with results of a survey distributed to the above-mentioned organizations (where such surveys have not been conducted $)^{\text {xiv }}$ to broaden our knowledge of gender equality in global science organizations and to gain further comparative insights. Such an expansion would also serve to build and strengthen the nascent coalition for gender equality in global science.

## Recommendation 1:

The partnership among GenderInSITE, IAP and the ISC should be expanded to include the GRC, the WFEO and CAETS. The survey instrument should be adapted to suit each of the afore-mentioned organizations and distributed among the members of each organization not previously surveyed to gain a more comprehensive picture of gender equality in global science organizations.

- Analysis of gender-related organizational policy, structure and actions
he current study has served to highlight examples of three elements in relation to gender, viz. organizational policy, organizational structure and organizational action. It has gathered relevant information from the surveyed organizations and hence achieved an important first step by creating an inventory of policy documents and actions. The next step must be a detailed analysis of this rich and valuable set of resources with a view towards better understanding: (1) the different models and modes associated with each of the three elements, and (2) how the organizations' thinking around policy, structure and action has evolved. The evolution should specifically address whether the organizations' thinking has evolved (or not) from gender representation to the incorporation of a 'gender lens', to consideration of the broader dimensions of diversity and inclusivity. The analysis should also identify best practices that can be adopted easily by organizations that have not yet generated policy documents or initiated any gender-related actions.


## Recommendation 2:

The three partners should initiate a collaborative study aimed at a better understanding of global organizational policy, structure and actions in relation to gender; how the organizations' thinking around policy, structure and action has evolved; and the identification of best practices in relation to gender and STI.

[^6]
## - Development of a central repository

In concert with the analysis of gender-related organizational policy, structure and action, there is an urgent need for the development and ongoing maintenance of a central repository of gender-related policies and ensuing actions of academies, disciplinary unions and associations. Having a central database of actions (i.e. projects, interventions, outputs, etc.) in relation to gender has significant potential to establish closer linkages between organizations and opportunities to learn from each other's best practices. Consideration should be given to the inclusion of evaluations of the efforts. Similarly, a central and shared database of gender-related policies could allow for existing policies and documents to be tailored by others to suit their own setting and context. Development of a decadal plan for women in STEM, for instance, does not need only to be an activity of the Australian Academy of Science, but could also be taken up by other academies through formalized processes of information sharing and mutual learning.

## Recommendation 9 :

The three partners should discuss the nature of the proposed database, including meta data, as well as hosting and maintenance responsibilities, and thereafter establish a central repository which is openly accessible.

## - Incorporation of regional considerations

Although the focus of this report is on global science organizations, each has a regional footprint that has highlighted some important regional variations, as well as regional shortcomings and opportunities. For example, women's membership of science academies has a regional expression; in the Asia-Pacific region, women's membership averages only 15\%, whereas in Europe and the Americas it averages $21 \%$. There is a striking difference in awareness of gender equality and related activities regionally. Academies in the Americas score the highest, with $81 \%$ responding that they have links with international organizations that promote women's activities. The survey did not probe regional expressions in the case of ISC members as only the global bodies were targeted. The international disciplinary unions operate in environments that are multi-cultural, diverse and dynamic. They also have national committees that present an opportunity for a deeper level of analysis. The regional networks, offices, or national committees present an opportunity to gain regional insights and to coordinate action directed at greater advocacy work amongst national science academies and national committees of unions.

## Recommendation 4:

The three partners should develop a plan to utilize this regional presence and differential impacts to gain insights and to advance the gender equality agenda, especially in countries/regions that are lagging.

## - Advancing women to leadership positions

The average share of women serving on the governing body is $29 \%$ for academies and $37 \%$ for ISC member organizations. In terms of leadership, $21 \%$ of academy presidents/chairs are women and $37 \%$ of international discipIinary organizations currently have a woman president. While below parity, the academy survey showed that there had been an improvement since the earlier study. GenderInSITE's report on 'Pathways to Success' (https://genderinsite.net/resources) underscored the importance of the gender dimension of global science and the inclusion of women's voices in global scientific leadership and in the setting of science agendas.

## Recommendation 5:

The three partners should monitor and promote women's leadership and service on governing bodies to ensure women's voices are included in the setting of science agendas.

## - Consideration of diversity and inclusivity

Over and above their central focus on gender, the surveys administered in this study touched on the topics of diversity and inclusivity. This was done intentionally to determine, at an exploratory level, the degree of awareness of these broader issues and indeed, of global trends and opportunities to transform organizations, as well as to indicate whether there was a need for a larger discussion about diversity and inclusivity. The commitment to the principles of diversity and inclusivity was certainly higher amongst unions and associations ( $68 \%$ ) than amongst academies ( $40 \%$ ), perhaps because disciplinary unions have a global footprint, where such issues become paramount, as opposed to national science academies where they may be less relevant. It was noteworthy that fewer organizations, including academies, have inclusivity and diversity committees than gender committees or committees that address women's issues. The comparative figures for international disciplinary organizations were $32 \%$ for gender committees and $24 \%$ for diversity and inclusivity committees. A critical matter for this study on gender equality in
global science organizations is whether a recommendation at this juncture to broaden to a consideration of diversity and inclusivity would dilute or strengthen gender equality achievements. The conclusion is that at this stage it is best to follow a stepwise approach, whereby the focus on gender equality is retained, while simultaneously raising awareness about the need for transformative action that embraces diversity and inclusivity more generally. It is recognized that regional and cultural perspectives need to be factored into the debate and that the conversation is more complex and multifaceted for merit-based academies where membership is dependent on an election process and not only the outcome of a policy process. The findings of the study proposed under Recommendation 2 should also inform the future approach. It is acknowledged that context-specific targets for achieving equity must be developed and that any gender-specific target must be realistically aligned with the targets set for other under-represented social categories, specifically those based on race and ethnicity, and equity-seeking groups.

## Recommendation 6:

The three partners should collaborate to foster a debate about diversity and inclusivity in global science, with a focus on intersectionality and gender considerations. Specific concerns relate to the intersection of race, ethnicity and gender. Organizations should take their cue for transformative action from the discussions.

## - Analysis of discipline-based gender transformation

This study has revealed that gender equality varies across disciplines. For instance, average academy membership of women ranges from only $7 \%$ in the mathematical sciences, $8 \%$ in engineering sciences to $27 \%$ in the social sciences, humanities and arts and $28 \%$ in biological sciences, implying that disciplinebased action is needed to increase the pool of women researchers who are eligible for nomination to academy membership. Information gathered on gender-related actions taken by the international disciplinary unions reveals differences in the extent to which gender equality in each discipline has been promoted. Some have established gender committees/working groups, others have focused on increasing the numbers of women participating in meetings and committees, while a few mentioned increasing the numbers of women in the STEM pipeline as a goal. None mentioned the aspiration of increasing the number of women in their discipline who are elected as members of science academies. The underrepresentation of women researchers in certain disciplines presents a convergence point for IAP and the international disciplinary organizations to collaborate on a strategy to enhance the representation of women. This would be an ideal follow-up initiative for the ISC unions that participated in the ISC-funded Gender Gap in Science project.

## Recommendation 7:

The three partners should collaborate on a strategy to enhance not only the number of women researchers, but also the nomination pool of women and the success rate of women elected as members of science academies.

## - Establishment of monitoring and evaluation (M\&E) frameworks

The finding that only six academies had discussed the recommendations of the 2015 academy report at a strategic planning session was disturbing. One of the recommendations of the 2015 academy report pertained to annual collection and reporting of gender-disaggregated data. It underscores the need for monitoring and evaluation (M\&E) to ensure that recommendations are implemented and that gender transformation is tracked. A strong recommendation of the 2015 report was for annual collection and reporting of gender-disaggregated data. Surveys should be conducted on a regular basis every five years to monitor progress. In the case of academies, there is a need to examine trend data to determine if there is a steady increase over time, especially over recent time. It is recognized that it takes a long time to realize a 'shift in share' as one has to overcome an established base when there were few women elected to membership. 'Moving in the right direction' is an important indicator.

## Recommendation 8:

IAP and ISC should commit to the establishment of centralized M\&E frameworks that require regular reporting of relevant gender statistics of their member organizations at each of their general assemblies to ensure that gender transformation is tracked. They should also assist their members by providing tools for them to establish their own M\&E frameworks.

## - Identification of lessons from young academies

This study has shown that young academies are significantly more gender-balanced than senior academies. Ten out of 12 young academies that responded have a higher percentage of women members than the highest-ranked senior academy, viz. the Academy of Sciences of Cuba, at $33 \%$. Hence, it is important to understand whether the gender equality achieved by young academies is part of a natural
process that has evolved from a more transformed cohort of young academicians (i.e. whether the young academies were born balanced) or whether it is the result of explicit interventions. It is also important to determine whether there are any lessons that senior academies can learn from the achievements of young academies.

## Recommendation 9:

The three partners should undertake a follow-up collaborative study to understand how the gender transformation journey of senior academies can learn and benefit from the achievements of young academies in respect of gender balance and also to ensure that the balance is not lost as the careers of these young scientists advance and they begin to be nominated for senior academies and appointed to other leadership positions.

- Shift from a focus on 'numbers' to institutional and knowledge transformation

This study was primarily focused on women's participation in global science and was heavily dependent on 'numbers' of women represented. However, the gender transformation journey of global science organizations needs to be about more than just 'numbers'; it needs to focus in addition on institutional culture and knowledge production to ensure that the needs and perspectives of women as well as men are considered. Essentially it means the incorporation of a 'gender lens' at every opportunity so that we do not perpetuate a male-dominated approach that marginalizes women and deprives science of needed talent and perspectives.

## Recommendation 10:

The three partners should embrace a shift from focusing on 'numbers' to an approach that embraces the incorporation of a 'gender lens' in all their activities.

## Appendix 1

Shares (\%) of women researchers (headcount), by country

| Country | \% | Year |
| :---: | :---: | :---: |
| Albania |  |  |
| Algeria | 47.1 | 2017 |
| American Samoa |  |  |
| Angola | 28.7 | 2016 |
| Argentina | 53.7 | 2018 |
| Armenia | 50.4 | 2018 |
| Australia |  |  |
| Austria | 30.1 | 2017 |
| Azerbaijan | 58.6 | 2018 |
| Bahrain | 39 | 2014 |
| Bangladesh |  |  |
| Belarus | 39.3 | 2018 |
| Belgium | 34.8 | 2017 |
| Benin |  |  |
| Bermuda | 37.8 | 2018 |
| Bolivia | 37.6 | 2014 |
| Bosnia and Herzegovina | 47.1 | 2018 |
| Botswana | 29.6 | 2013 |
| Brazil |  |  |
| Brunei Darussalam | 45.2 | 2018 |
| Bulgaria | 47.4 | 2017 |
| Burkina Faso | 17 | 2017 |
| Burundi | 14.3 | 2018 |
| Cabo Verde | 45.8 | 2014 |
| Cambodia | 23.7 | 2015 |
| Cameroon |  |  |
| Canada |  |  |
| Central African Republic |  |  |
| Chad | 3.4 | 2018 |
| Chile | 34.4 | 2017 |
| China |  |  |
| China, Hong Kong |  |  |
| China, Macao | 38.7 | 2018 |
| Colombia | 37.4 | 2017 |
| Congo |  |  |
| Costa Rica | 45.2 | 2018 |


| Country | \% | Year |
| :---: | :---: | :---: |
| Côte d'Ivoire | 17 | 2016 |
| Croatia | 48.4 | 2017 |
| Cuba | 49 | 2018 |
| Cyprus | 38.1 | 2017 |
| Czechia | 26.6 | 2018 |
| Democratic Republic of the Congo | 8.7 | 2015 |
| Denmark | 35.8 | 2017 |
| Dominican Republic |  |  |
| Ecuador | 41.1 | 2014 |
| Egypt | 45.6 | 2018 |
| El Salvador | 39.8 | 2018 |
| Estonia | 42.2 | 2017 |
| Eswatini | 41.4 | 2015 |
| Ethiopia | 11.5 | 2017 |
| Faeroe Islands |  |  |
| Finland | 33.2 | 2017 |
| France | 28.3 | 2017 |
| Gabon | 28.2 | 2014 |
| Gambia | 27.2 | 2018 |
| Georgia | 53 | 2018 |
| Germany | 27.9 | 2017 |
| Ghana | 26.1 | 2015 |
| Greece | 37.8 | 2017 |
| Greenland |  |  |
| Guam |  |  |
| Guatemala | 47.3 | 2018 |
| Guinea | 9.8 | 2013 |
| Honduras | 36.4 | 2017 |
| Hungary | 30.5 | 2017 |
| Iceland | 46.4 | 2017 |
| India | 16.6 | 2018 |
| Indonesia | 45.8 | 2018 |
| Iran (Islamic Republic of) | 31.2 | 2017 |
| Iraq | 38.1 | 2018 |
| Ireland | 36.3 | 2017 |


| Country | \% | Year |
| :---: | :---: | :---: |
| Israel |  |  |
| Italy | 34.3 | 2017 |
| Jamaica | 49.1 | 2017 |
| Japan | 16.6 | 2018 |
| Jordan | 19.5 | 2018 |
| Kazakhstan | 52.8 | 2018 |
| Kenya |  |  |
| Kuwait | 53.2 | 2018 |
| Kyrgyzstan | 55.7 | 2018 |
| Lao People's Democratic Republic |  |  |
| Latvia | 52.2 | 2017 |
| Lebanon |  |  |
| Lesotho | 36.4 | 2015 |
| Libya |  |  |
| Lithuania | 49.5 | 2017 |
| Luxembourg | 28.1 | 2017 |
| Madagascar | 33 | 2018 |
| Malawi |  |  |
| Malaysia | 49.2 | 2018 |
| Mali | 15.1 | 2017 |
| Malta | 30.9 | 2017 |
| Mauritania | 24.5 | 2018 |
| Mauritius | 43.7 | 2018 |
| Mexico | 33 | 2013 |
| Monaco |  |  |
| Mongolia | 48.9 | 2018 |
| Montenegro | 49.9 | 2017 |
| Morocco | 33.8 | 2016 |
| Mozambique | 28.9 | 2015 |
| Myanmar | 75.6 | 2017 |
| Namibia | 38.7 | 2014 |
| Nauru |  |  |
| Nepal |  |  |
| Netherlands | 26.4 | 2017 |
| New Zealand |  |  |
| Nicaragua |  |  |
| Niger | 17 | 2013 |
| Nigeria |  |  |
| North Macedonia | 53.4 | 2018 |
| Norway | 38.1 | 2017 |
| Oman | 36.4 | 2018 |


| Country | \% | Year |
| :---: | :---: | :---: |
| Pakistan | 38.8 | 2017 |
| Palestine | 22.6 | 2013 |
| Panama | 51.8 | 2013 |
| Papua New Guinea | 33.2 | 2016 |
| Paraguay | 48.5 | 2018 |
| Peru | 28.6 | 2018 |
| Philippines | 51.2 | 2015 |
| Poland | 38.1 | 2017 |
| Portugal | 43.7 | 2017 |
| Puerto Rico |  |  |
| Qatar | 34.1 | 2018 |
| Republic of Korea | 20.4 | 2018 |
| Republic of Moldova | 48.6 | 2018 |
| Romania | 46.7 | 2017 |
| Russian Federation | 39.2 | 2018 |
| Rwanda | 22.6 | 2016 |
| Saint Helena |  |  |
| Saint Lucia |  |  |
| Saint Vincent and the Grenadines |  |  |
| Saudi Arabia | 23.2 | 2013 |
| Senegal | 29.3 | 2015 |
| Serbia | 51.4 | 2018 |
| Seychelles | 34.9 | 2016 |
| Singapore | 30.1 | 2014 |
| Slovakia | 41.2 | 2018 |
| Slovenia | 32.3 | 2017 |
| South Africa | 44.9 | 2017 |
| Spain | 40.5 | 2017 |
| Sri Lanka | 45.3 | 2017 |
| Sudan |  |  |
| Sweden | 32.6 | 2017 |
| Switzerland | 34.9 | 2017 |
| Syrian Arab Republic | 34.9 | 2015 |
| Tajikistan | 37.5 | 2018 |
| Tanzania | 29.8 | 2013 |
| Thailand | 49.7 | 2017 |
| Togo | 11.2 | 2018 |
| Trinidad and Tobago | 56.5 | 2018 |
| Tunisia | 56.1 | 2018 |
| Turkey | 37 | 2017 |
| Uganda | 29.8 | 2014 |


| Country | $\%$ | Year |
| :---: | :---: | :---: |
| Ukraine | 44.7 | 2018 |
| United Arab Emirates | 33.3 | 2018 |
| United Kingdom | 38.7 | 2016 |
| United States of <br> America |  |  |
| United States Virgin <br> Islands |  |  |


| Country | \% | Year |
| :---: | :---: | :---: |
| Uruguay | 49.3 | 2018 |
| Uzbekistan | 40.8 | 2018 |
| Venezuela | 61.4 | 2016 |
| Vietnam | 44.8 | 2015 |
| Zambia |  |  |
| Zimbabwe |  |  |

## Notes:

Headcounts of researchers are reported in all instances, except for India, where the reporting unit is the number of full-time equivalent researchers.
Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned. The share of women researchers among total researchers in all institutional sectors is shown.
Shaded cells mean that no statistics on the shares of women researchers could be obtained for that country from the source consulted.
Source: UNESCO Institute of Statistics (http://data.uis.unesco.org/)

## Appendix 2: Survey: women's participation in academies OVERVIEW

This survey on women's participation in academies and gender-related policies and activities of academies is being coordinated by GenderInSITE (Gender in Science, Innovation, Technology and Engineering) on behalf of the InterAcademy Partnership (IAP) and the International Science Council (ISC).
It is a first step in an envisaged larger project that will aim, inter alia, to build on our knowledge and understanding of gender equality in academies and other kinds of scientific institutions so as to identify best practices to advance the status of women in science systems

This is a revised version of a previous survey undertaken by the IAP in 2015, the results of which were published in a 2016 report titled "Women for Science: Inclusion and Participation in Science Academies" (https://www.interacademies.org/29832/). The new version includes a few additional questions on gender-related issues and is being sent to a large group of Academies that includes both ISC and IAP members.

## CONSENT TO PARTICIPATE

I hereby agree to participate in this survey, titled: Women's Participation in Academies. I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop completing the questionnaire at any time and withdraw as a participant in the research.
Although the results will be summarised in a written report that will be openly accessible, my name will be treated as confidential and will not be mentioned in any report. I understand that direct quotations from my Academy's completed questionnaire may be used, but without mentioning my name in order to protect my anonymity.
I have received the details of a person to contact should I need to voice any concerns that may arise from this survey.
If you agree with all of the above, please select "Yes" and proceed

| Yes, I agree - take me to the survey |  |
| :--- | :--- |
| No, I do not agree - take me out of here |  |

## A. GENERAL INFORMATION

1. Name of your Academy:
2. Country where Academy is located:
3. Is your Academy a member of IAP and/or ISC? (Tick the appropriate box/es)

| IAP |  |
| :--- | :--- |
| ISC |  |

4. Your title, name and surname:
5. Your email address:
6. Postal address:
7. Telephone:
8. Skype:
9. URL/ web link to your Academy's website:

## B. ACADEMY MEMBERSHIP

NOTE: A 'member' represents any person who is elected into the Academy. Some Academies may use the term 'fellow' instead.
10. How many members are there in your Academy? (Write the number in the space provided.)
11. How many of these members are women? (Write the number in the space provided.)
12. Which ONE of the following best describes your Academy? (Tick the appropriate box.)

The Academy admits members in all disciplines including natural/ physical/pure sciences/medical sciences/humanities and social sciences and engineering
The Academy admits members in selected disciplines. In this case, specify the disciplines that apply
13. How many members does your Academy have in the broad discipline groups listed below?
(Approximate if you don't know the exact number. It is recognized that not all academies follow this breakdown. Please use the space below to provide explanatory notes pertaining to your Academy)

| Broad discipline group | TOTAL number of <br> members in discipline | Number of FEMALE <br> members in discipline |
| :--- | :--- | :--- |
| Agricultural Sciences |  |  |
| Biological Sciences |  |  |
| Computer Sciences/ICT |  |  |
| Earth \& Environmental Sciences |  |  |
| Economics |  |  |
| Engineering Sciences |  |  |
| Mathematical Sciences |  |  |
| Medical and Health Sciences |  |  |
| Physical and Chemical Sciences |  |  |
| Social Sciences |  |  |
| Humanities \& Arts |  |  |
| Other (please specify) |  |  |

Explanatory notes:
14. Do the above figures include "double counts"? In other words, are the same individuals counted in more than one broad discipline group because of multiple disciplinary classifications? (Tick the appropriate box.)

15. Do members of your Academy have to pay for membership? (Tick the appropriate box.)

| Yes |  |
| :--- | :--- |
| No |  |

16. Approximately what percentage of your members attended the last Annual General Meeting? (Write the percentage in the space provided.)

## C. GOVERNANCE OF ACADEMY

17. Is your Academy governed by a president/chair or by co-chairs? (Tick the appropriate box.)

| President/chair |  |
| :--- | :--- |
| Co-chairs |  |

If your Academy has a president/chair, answer Question 18 and proceed to Question 21.
If your Academy has co-chairs, answer Question 19 and proceed to Question 21.
If your Academy is an umbrella for subsidiary Academy structures, then please provide details of the leadership of these Academies in Question 20.
18. Is the current president/chair of your Academy a man or a woman? (Tick the appropriate box.)

| Man |  |
| :--- | :--- |
| Woman |  |

19. How many of the co-chairs are women? (Tick the appropriate box.)

| None |  |
| :--- | :--- |
| One |  |
| Two |  |

20. Details of the leadership of any subsidiary Academies:

NOTE: Questions 21 to 25 ask about your Academy's Governing Body. The latter is sometimes referred to as the Board, Council or Governing Council (or Executive Committee in the case of a Young Academy) and determines the strategic direction of the Academy.
21. How many members sit on the Governing Body? (Write the number in the space provided.)
22. How many of the members on the current Governing Body are female? (Write the number in the space provided.)
23. How often does the Governing Body meet? (Tick only ONE box.)

| Monthly |  |
| :--- | :--- |
| Every quarter |  |
| Twice a year |  |
| Once a year |  |
| Every two years |  |
| Less frequently |  |

24. How often is the Governing Body elected? (Tick only ONE box.)

| Annually |  |
| :--- | :--- |
| Every two years |  |
| Every three years |  |
| Every four years |  |
| Less frequently |  |


| All members elect the Governing Body |  |
| :--- | :--- |
| A group of members elects the Governing Body |  |
| A group of both members and non-members elects <br> the Governing Body |  |
| Other, specify: |  |

## D. ACTIVITIES OF ACADEMY

26. Does your Academy have any document (strategy, policy, founding document, etc.) that explicitly mentions the need for increased participation by women in your Academy's activities?

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 27 and continue with Question 28.
If NO, skip Questions 27 and 28 and answer Question 29.
27. Provide details of the document (name, year in which developed, web link if available)
28. What was the driving force (e.g. government policy, particular individual, global trend etc.) for the development of the document? (Write your answer in the space provided)
29. Does your Academy have any awards/prizes devoted specifically to women?

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 30 and continue with Question 31.
If NO, skip Question 30 and answer Question 31.
30. How often does your Academy present this women's award? (Tick only ONE box.)

| Annually |  |
| :--- | :--- |
| Every two years |  |
| Every three years |  |
| Less frequently |  |

31. Does your Academy have any fellowships and/or grants devoted specifically to women?

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 32 and continue with Question 33.
If NO, skip Question 32 and answer Question 33.
32. Provide details of the fellowships and/or grants in the space below.
33. Does your Academy have any initiative(s)/programme(s) on Women in Science? (Exclude awards and fellowships that are specifically for women)

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 34 and continue with Question 35.
If NO, skip Question 34 and answer Question 35.
34. Please provide details (e.g. name and focus; web link) about the initiative(s)/programme(s):
35. Does your Academy address women's/gender issues? (Please tick all boxes that are applicable and provide explanatory notes in the space provided)
This question has been broadened since the last survey to include gender awareness, in addition to a focus on women's issues. Gender refers to the identity of a person or the identity that a person perceives themselves to be.

|  | The Academy has a committee that addresses <br> women's issues (Specify name, nature of membership <br> and role) |  |
| :--- | :--- | :--- |
|  | The Academy has one or more individuals who <br> advise(s) on women's issues (Provide the name of the <br> individual if possible) |  |
|  | The Academy has linkages with one or more <br> national organization(s)/networks that promote(s) <br> women's activities (Specify names of organizations/ <br> networks) |  |
|  | The Academy has linkages with one or more <br> international organization(s)/networks that <br> promotes) women's activities (Specify names of <br> organizations/networks) |  |
|  | The Academy has linkages with one or more <br> organization(s)/initiative(s) that promote(s) the <br> application of a 'gender lens' (Specify the names of <br> organizations/initiatives) |  |
|  | The Academy 'celebrates' national and/or <br> international women's days (Specify the names and <br> the manner of celebration) |  |
|  | None of the above are applicable |  |

36. Has your Academy published any report(s) since 2015 that specifically address issues related to women or gender?

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 37 and continue with Question 38.
If NO, skip Question 37 and answer Question 38.
37. Please provide details (e.g. name and focus; web link) about the report(s):
38. Does your Academy have a policy that addresses sexual harassment in the work place?

| Yes |  |
| :--- | :--- |
| No |  |

If YES, answer Question 39 and continue with Question 40.
If NO, skip Question 39 and answer Question 40.
39. Please provide details (e.g. name of policy; whether it is a dedicated policy or part of an employee relations policy):
40. Please rate your extent of agreement with EACH of the following statements. (Tick only ONE box for each statement.)

| Statements | Strongly <br> agree | Agree | Neutral | Disagree | Strongly <br> disagree | Does not <br> apply to <br> Academy |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| The Academy is promoting more <br> women members to decision-making <br> levels than in the past |  |  |  |  |  |  |
| The Academy has a concerted drive to <br> include more women in its panels and <br> committees |  |  |  |  |  |  |
| The Academy has recently succeeded <br> in including more women in its panels <br> and committees |  |  |  |  |  |  |
| The Academy has a concerted drive to <br> increase the number of women in the <br> nomination pool for membership |  |  |  |  |  |  |
| The Academy has a concerted drive to <br> increase the number of women in the <br> nomination pool for prizes and awards |  |  |  |  |  |  |
| The Academy pays attention to gender <br> implications (considers the gender <br> dimension/applies a gender lens) as <br> part of the study scope of the research/ <br> studies that it undertakes |  |  |  |  |  |  |
| The Academy pays attention to gender <br> implications of its science advisory <br> activities |  |  |  |  |  |  |
| The Academy has a focus on girls/ <br> women in STEM education (e.g. <br> undertakes studies/has a committee) |  |  |  |  |  |  |
| The Academy has a focus on SDG 5 on <br> gender equality and empowerment <br> of women and girls (e.g. undertakes <br> studies that align with SDG 5) |  |  |  |  |  |  |
| Gender features as an important <br> element of your country's STI policy |  |  |  |  |  |  |

41. Is there anything else about the role of women or gender-related issues in your Academy's activities that you would like to raise? Please do so in the space provided.
42. Does your Academy address diversity and inclusivity issues? (Please tick all boxes that are applicable and provide explanatory notes in the space provided)
Diversity is a generalized term that encompasses for example, race, gender, ethnic group, sexual orientation etc.

|  | The Academy is committed to the principles of diversity and inclusivity in its <br> membership (Provide details of initiatives/interventions) |  |
| :--- | :--- | :--- |
|  | The Academy is committed to the principles of diversity and inclusivity in the <br> composition of its study panels (Provide details of initiatives/interventions) |  |
|  | The Academy has one or more individuals who advise(s) on diversity issues |  |
|  | None of the above are applicable |  |

## E. ACTIONS AND ACHIEVEMENTS SINCE LAST IAP SURVEY

43. Did your Academy participate in the last IAP survey on women's participation in science academies that was undertaken in 2015?

| Yes |  |
| :--- | :--- |
| No |  |
| Don't know |  |

If YES, answer Question 44 and continue with Question 45.
If NO, skip Question 44 and answer Question 45.
44. Please indicate which of the following statements apply to your Academy in respect of the 2016 report that was published on Women for Science: Inclusion and Participation in Science Academies (https:// www.interacademies.org/29832/), following the IAP survey? (Please tick all those that are applicable)

| My Academy (or at least a few senior members) is aware of the report |  |
| :--- | :--- |
| My Academy (or at least someone at the Academy) has read the report |  |
| My Academy discussed the report at one or more of its strategic meetings |  |
| My Academy implemented some of the report's recommendations in its practices and/or policies. <br> Please provide details about the action(s) taken: |  |
| Other, specify: |  |

45. Please indicate what your Academy thinks was most significant about the 2016 report.

## THE END

THANK YOU FOR TAKING THE TIME AND EFFORT

## Appendix 3: ISC survey

## Women for Science: Inclusion and participation of women in international disciplinary Unions and Associations

## OVERVIEW

This survey on women's participation in international disciplinary Unions and Associations and gender-related policies and activities of Unions and Associations is being coordinated by GenderInSITE (Gender in Science, Innovation, Technology and Engineering) on behalf of the International Science Council (ISC).
It is a first step in an envisaged larger project that will aim, inter alia, to build on our knowledge and understanding of gender equality in international disciplinary and Associations and other kinds of scientific bodies, such as academies, to identify best practices to advance the status of women in the global science system.
This survey is being sent to a large group of international disciplinary Unions and Associations that are ISC members.
This survey builds upon a first survey conducted with academies in early 2020; this was a revised version of a previous survey undertaken by the InterAcademy Partnership (IAP) in 2015, the results of which were published in a 2016 report titled "Women for Science: Inclusion and Participation in Science Academies" (https://www.interacademies.org/29832/-Women-for-Science-Inclusion-and-Participation-in-Academies-of-Science).

## CONSENT TO PARTICIPATE

I hereby agree to participate in this survey aimed at assessing the inclusion and participation of women in international ISC-member Unions and Associations.
Although the results will be summarised in a written report that will be openly accessible, my name will be treated as confidential and will not be mentioned in any report. I understand that direct quotations from my organization's completed questionnaire may be used, but without mentioning my name in order to protect my anonymity.
If you agree with all of the above, please select "Yes" and proceed

| Yes, I agree - take me to the survey |  |
| :--- | :--- |
| No, I do not agree - take me out of here |  |

## A. GENERAL INFORMATION

1. Name of the international disciplinary organization:
2. Your name and surname:
3. Your role in the organization:
4. Your email address:

## B. INTERNATIONAL DISCIPLINARY ORGANIZATION MEMBERSHIP

5. The members of your organization are (tick appropriate box and indicate the number of countries and/or number of individuals):

| Countries |  | Individuals |  | Both |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

6. Please indicate the regions in which your members' network is present (Please use the space below to provide the information.)
Region Tick appropriate box(es)

| North America |  |
| :--- | :--- |
| South America |  |
| Central America \& Caribbean |  |
| Europe |  |
| Sub-Saharan Africa |  |
| North Africa and Middle East |  |
| Asia |  |
| Australasia |  |

7. How many of the countries in your membership have national chapters/members/committees? (Tick appropriate box)

| $<5$ | $6-10$ | $11-20$ | $>20$ | Do not know |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

8. Approximately what percentage of members attended your organization's last main governance meeting (General Assembly)? (Write the percentage in the space provided):
9. Does your organization have gender/sex-disaggregated data for participants at the last main governance meeting?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please indicate the percentage of women attendees (Write the percentage in the space provided):
10. Does the membership application process for your organization involve an explicit statement on gender equality and women in science principles?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please specify the format of such statement (formal letter, agreement signature...) in the space provided:

If yes, does your organization share the results of the analysis with its members?

| Yes |  |
| :--- | :--- |
| No |  |

## C. GOVERNANCE OF THE ORGANIZATION

NOTE: Questions 11 to 18 ask about the governing body, such as a Board, an Executive Committee, or Governing Council, that determines the strategic direction of your organization.
11. How many individuals sit on the Governing Body? (Write the number in the space provided.)
12. How many of the members on the current Governing Body are women? (Write the number in the space provided.)
13. How often does the Governing Body meet? (Tick only ONE box.)

| Monthly |  |
| :--- | :--- |
| Every quarter |  |
| Twice a year |  |
| Once a year |  |
| Every two <br> years |  |
| Less <br> frequently |  |

## 14. How often is the Governing Body elected? (Tick only ONE box.)

| Annually |  |
| :--- | :--- |
| Every two years |  |
| Every three years |  |
| Every four years |  |
| Less frequently |  |

15. How is the Governing Body elected? (Tick only ONE box.)

| All members elect the Governing Body |  |
| :--- | :--- |
| A group of members elects the Governing Body |  |
| A group of both members and non-members elects the Governing Body |  |
| Other, specify: |  |

16. Is the current president (or equivalent) of your organization a man or a woman? (Tick the appropriate box.)

| Man |  |
| :--- | :--- |
| Woman |  |

16b. Is the past president of your organization a man or a woman? (Tick the appropriate box.)

| Man |  |
| :--- | :--- |
| Woman |  |

17. Is the current executive director/secretary (or equivalent) of your organization a man or a woman? (Tick the appropriate box.)

| Man |  |
| :--- | :--- |
| Woman |  |

18. Is the past executive director/secretary of your organization a man or a woman? (Tick the appropriate box.)

| Man |  |
| :--- | :--- |
| Woman |  |

## D. ACTIVITIES OF THE ORGANIZATION

18. Does your organization's constitution address gender equality issues? (Please tick all boxes that are applicable)

|  | YES/NO | Details (e.g. name and focus; web link) |
| :--- | :--- | :--- |
| The organization has a document (strategy, policy, <br> founding document, etc.) that explicitly mentions <br> the need for increased participation by women in its <br> activities. |  |  |
| The organization has published report(s) that <br> specifically address issues related to women or <br> gender. |  |  |

19. If your organization has a Secretariat, is there a policy that addresses sexual harassment in the workplace?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please provide details in the space below (e.g. name of policy; whether it is a dedicated policy or part of an employee relations policy):
20. Please indicate in the space below a list of current or past projects and activities/workshops where there was a specific gender focus. (If reports were published, please provide the links)
21. To the best of your knowledge, how many of your organizations' projects/activities are led by women? (Tick the appropriate box)

| $<10 \%$ | $10 \%-30 \%$ | $30 \%-50 \%$ | $>50 \%$ | Do not know |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

22. Please indicate in the space below any gender-related activities conducted by national chapters (or equivalent) that you are aware of:
23. Does your organization have any grants, fellowships or awards specifically for women?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please provide details (e.g. name and focus; web link; frequency of award) about the grant/ fellowship:
24. Does your organization have any committee, research board or similar structure with a specific focus on women in science issues?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please provide details (e.g. name and focus; web link):
25. Does your organization have any initiatives and/or advocacy/networking activities aimed at the promotion of gender equality in science?

| Yes |  |
| :--- | :--- |
| No |  |

If yes, please provide details (e.g. name and focus; web link) about the initiative(s)/networks, campaign:
26. Does your organization address gender/diversity issues? (Please tick all boxes that are applicable)

|  | Yes or No | If yes, provide details and/or website |
| :--- | :--- | :--- |
| The organization has a committee that addresses <br> gender equality in science |  |  |
| The organization has one or more individuals who <br> advise(s) on gender equality issues |  |  |
| The organization has passed resolutions/ <br> recommendations on gender equality and women's <br> empowerment |  |  |
| The organization devotes a specific budget to <br> implement its gender equality policy |  |  |
| The organization is committed to the principles of <br> diversity and inclusivity |  |  |
| The organization has a committee that addresses <br> diversity and inclusivity issues |  |  |
| The organization has one or more individuals who <br> advise(s) on diversity and inclusivity issues |  |  |
| The organization conducts gender analysis and <br> monitoring of its projects |  |  |
| The organization has a systematic approach to <br> monitoring and evaluation of gender and inclusivity <br> issues that includes adequate and measurable <br> indicators to assess the success of its actions |  |  |
| None of the above are applicable |  |  |

27. Does your organization or do the individuals in your governing body participate in international initiatives on gender equality and empowerment of women?

| Initiative | Tick the appropriate box(es) |
| :--- | :--- |
| UN CSTD Gender Advisory Board |  |
| UN Commission on Status of Women |  |
| Gender-related session at STI Forum or HLPF |  |
| Activities by UN-Women |  |
| Activities by UNESCO |  |
| Celebrations for 11 February "International Day for <br> Women and Girls in Science" |  |
| International Gender Champions |  |
| Other please specify |  |

28. Please rate your extent of agreement with EACH of the following statements. (Tick only ONE box for each statement.)

| Statements | Strongly <br> agree | Agree | Neutral | Disagree | Strongly <br> disagree | Does not <br> apply |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| The organization is promoting more <br> women to decision-making levels than <br> in the past 5 years |  |  |  |  |  |  |
| The organization has a concerted <br> drive to include more women in its <br> committees and activities |  |  |  |  |  |  |
| The organization has increased the <br> number of women scientists in the <br> nomination pool for prizes and awards |  |  |  |  |  |  |
| The organization encourages the <br> participation of women in the events it <br> organizes |  |  |  |  |  |  |
| The organization has a focus on SDG 5 <br> on gender equality and empowerment <br> of women and girls (e.g. undertakes <br> activities that align with SDG 5) |  |  |  |  |  |  |

29. Is there anything else about the role of women or gender-related issues in your organization's activities that you would like to raise? (Please do so in the space provide)

## E. MONITORING AND EVALUATION

30. Has your organization been evaluated on its performance on, and action to promote women's participation and gender equality in science? (Tick appropriate box)

| Yes |  |
| :--- | :--- |
| No |  |
| Do not know |  |

If yes, please provide further details (dates, format) and link to the evaluation report, when available. (Please do so in the space provided)
31. Does your organization regularly monitor women's participation among its membership?

| Yes |  |
| :--- | :--- |
| No |  |

## THE END

THANK YOU FOR TAKING THE TIME AND EFFORT

## Appendix 4: Descriptive statistics for women as percentage of members of academies, by broad discipline group

|  |  |  | 氙 0 0 0 0 0 0 0 0 0 0 0 |  |  |  | Medical \& health sciences |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of academies | 45 | 56 | 34 | 49 | 52 | 51 | 58 | 57 | 55 |
| Number of total members (men and women) of academies |  |  |  |  |  |  |  |  |  |
| Mean number per academy | 29 | 66 | 12 | 29 | 39 | 29 | 90 | 77 | 102 |
| Median number per academy | 14 | 17 | 4.5 | 10 | 19 | 9 | 37 | 18 | 32 |
| Standard deviation | 42 | 118 | 16 | 39 | 57 | 40 | 186 | 135 | 196 |
| Minimum number | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| Maximum number | 204 | 618 | 55 | 160 | 342 | 167 | 1292 | 711 | 1289 |
| Number of women members of academies |  |  |  |  |  |  |  |  |  |
| Mean number per academy | 5 | 13 | 2 | 4 | 3 | 2 | 18 | 8 | 28 |
| Median number per academy | 1 | 4 | 0 | 2 | 1 | 0 | 5.5 | 3 | 8 |
| Standard deviation | 11 | 28 | 3 | 6 | 6 | 4 | 35 | 17 | 64 |
| Minimum number | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maximum number | 57 | 158 | 9 | 32 | 38 | 17 | 248 | 113 | 416 |
| Women as \% of members of academies |  |  |  |  |  |  |  |  |  |
| Mean \% per academy | 17\% | 28\% | 9\% | 16\% | 1\% | 8\% | 24\% | 13\% | 27\% |
| Median \% per academy | 13\% | 20\% | 0\% | 11\% | 4\% | 0\% | 20\% | 10\% | 24\% |
| Standard deviation | 19\% | 24\% | 13\% | 22\% | 20\% | 19\% | 18\% | 16\% | 19\% |
| Minimum \% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| Maximum \% | 75\% | 100\% | 50\% | 100\% | 100\% | 100\% | 100\% | 64\% | 75\% |

Note: The standard deviation refers to the (1) variation in the numbers of members reported by the individual academies in each broad discipline group, and the (2) variation in the shares of women members reported by the individual academies in each broad discipline group.

## Appendix 5: Documents that mention the need for increased participation by women in the academy's activities

| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Africa |  |  |  |
| Cameroon | Cameroon Academy of Sciences | Strategic Plan, 2005, Internal Regulations, 1991, http://www. casciences.org | Recommendation of the National Council for Higher Education and Scientific Research (presided over by the Head of State followed by action of concerned scientists inspired by the African Academy of Sciences). |
| Ethiopia | Ethiopian Academy of Sciences | The Academy has a gender policy which makes reference to increased representation of women in decisionmaking bodies. The human resources policy/manual mentions the Academy's equal employment opportunity policy in employing minorities, women and people with disabilities. These documents were revised in 2019 and approved by the Board. These are internal documents and are not available online. | These documents were initially developed as part of the process of institutional building. In time, the Board recommended revision as per the identified gaps. |
| Nigeria | Nigerian Academy of Science | Strategic Plan 2018- 2022 | The Academy's Executive. |
| South Africa | Academy of Science of South Africa | Gender Strategy, November 2017. This document was revised in 2019 to the Women and Gender in Science, Technology and Innovation Strategy. | Executive Officer of the Academy at the time and the Executive Committee of the OWSD South Africa National Chapter. |
| South Africa | South African Young Academy of Science | Strategic Plan 2017- <br> 2021 | Due to the country's segregation in the past, cognisant of gender disparity as well as race and geographical representation. Given further support by the senior Academy. |


| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Tanzania | Tanzania Academy of Sciences | One of the strategic objectives of the Rolling Strategic Plan 20172022 is to increase membership and active participation. One of the outcomes is to have more women and younger members elected into the Academy. | Government policy and the Academy's analysis of the situation in Tanzania. |
| Americas |  |  |  |
| Canada | Royal Society of Canada | Strategic plan, 20182021 (https://rsc-src. ca/sites/default/files/ RSC_StrategicPlan_ EN_web_0.pdf). | The governing Council of the Royal Society of Canada. |
| Cuba | Academy of Sciences of Cuba | Agreement of 1999 - creating the Commission of Women in Sciences of the Cuban Academy. | Political will of the Cuban government since 1959 to include women in all spheres of social and economic development. The world UNESCO-ICSU Conference of Science, Budapest 1999, was catalytic in highlighting gender issues inside the Academy and in the Cuban scientific community. |
| Guatemala | Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | A commission of women in science composed of women members was created. | Global trend. |
| Mexico | Academia Mexicana de Ciencias | Document named "Women in Science in Mexico" was developed and used as a presentation when the topic is about Women in Science. | The document was developed by vice-president of the Mexican Academy of Sciences, Dr. Susana Lizano, who became president in July 2020. Former president Morán also encourages women's participation. |
| United States of America | National Academy of Medicine | Many internal documents that reference increasing demographic diversity in the election of new members and volunteer participation. | The Council has explicitly focused on the need for a more diverse membership body since 2004. |
| United States of America | The National Academy of Sciences | A report on progress in this area is made regularly at governance meetings. | The institution and its leadership recognized the need to change. Also, Marcia McNutt, the Academy president, wants to see more women as members, on committees, and in leadership roles. |


| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Asia-Pacific |  |  |  |
| Australia | Australian Academy of Science | Strategic Plan 20182022 (https://www. science.org.au/about-us/academy/strategicplan). Commits to champion and support diversity and equity in science | Academy will be a national leader in diversity, equity and inclusion in the science sector |
| India | Indian National Science Academy | The Academy has published a report on "Science Careers for Indian Women" (www. insaindia.res.in). In collaboration with sister Academies published a vision document in 2016 on "Women in Science \& Technology". | Efforts are made to increase women's participation in every programme of the Academy. The Academy has elected its first woman President and one of the VicePresidents and 5 Council members are women. Chairs of 2 of subject sectional committees are also women. The Academy has selected 34 women Young Scientist Awardees, 260 women INSPIRE faculty fellows, 14 women Teachers' Awardees during past 5 years. Presently 89 fellows of the Academy are women. |
| Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Strategic plan for women's health scientific group in Academy (in Persian): http://www.ams.ac.ir/ index.php | Governance policy of Academy. |
| New Zealand | Royal Society Te Apārangi | All Fellowship evaluation and section documentation (inhouse and confidential as opposed to listing on website). | A commitment to greater diversity among the fellowship, award winners etc. |
| Europe |  |  |  |
| Austria | Austrian Academy of Sciences | Development Plan, 2018-20) (https://www. oeaw.ac.at/fileadmin/ NEWS/2017/PDF/ EP_2018-2020.pdf) Frauenförderplan, 1.1.2019 (https:// www.oeaw.ac.at/ fileadmin/NEWS/2019/ PDF/OeAW Frauenfoerderplan _2018-2020_online. pdf) | Strategic goal of the Academy. |


| Country | Academy | Details of the document | Driving force for the <br> development of the <br> document |
| :--- | :--- | :--- | :--- |
| Belgium | Koninklijke Academie <br> voor Nederlandse Taal en <br> Letteren | Decreet betreffende de <br> Koninklijke Academie <br> voor Nederlandse Taal <br> en Letteren (12 Oct. <br> 2018) | Decree of the Flemish <br> Government. |
| Belgium | The Royal Academies for <br> Science and the Arts of <br> Belgium | Regulations of the <br> Academy, updated in <br> 2018, state that for the <br> elections of fellows: If <br> there is a tie between <br> 2 candidates, the <br> candidate of the least <br> represented sex wins; <br> if the two candidates <br> are of the same sex, <br> the youngest candidate <br> wins. (art. 7). (http:// <br> www.academieroyale. | Statutes and regulations of <br> the Academy needed to be <br> updated. |
| be/fr/l-academie- |  |  |  |
| royale-statuts- |  |  |  |
| rapports-annuels- |  |  |  |
| reglement-general/). |  |  |  |$\quad$| France |
| :--- |


| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Germany | German National Academy of Sciences Leopoldina | In 2005, the Senate of Leopoldina decided not to take selected female scientists into account for the number of places to be filled in a class per year (thus encouraging the nomination of women). This agreement was to be applied only until 2020. In addition, the Presidium decided that the percentage of women nominees for membership in a class must be at least as high as the percentage of women at the C4/ W3 professorships of the respective field of expertise. | Leopoldina is obliged to appoint an Equal Opportunities Officer when the number of employees exceeds 100. Together with the BMBF rules of procedure were drawn up, which govern the equal opportunities work at Leopoldina's office. Equally, the Senate has put into place a number of rules to increase women's participation. |
| Hungary | Hungarian Academy of Sciences | Gender Equality Framework Programme. | Internal movement among members of the Academy to reverse the trend of low women's membership. Also influenced by recommendations of Helsinki Group on Gender in Research and Innovation. |
| Ireland | Royal Irish Academy | Strategic Plan, 20192023 (https://www.ria. ie/strategic-plan). <br> The Academy is also preparing a stand-alone Diversity Statement for release in 2020. | Embedded within the Academy's current strategic plan and building on the previous plan is a commitment to increase the diversity of its awards and membership. Specifically, the 2019-2023 Strategic Plan commits to increasing the diversity of the Academy's membership and to ensure greater gender, disciplinary, institutional and overall diversity among members of the Academy and Academy Committees and working groups. |


| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Norway | Norwegian Academy of Science and Letters | In the statutes, it is written "The Academy will represent the breadth and quality of Norwegian research through its members. The academy shall strive to ensure that its members have a good academic breadth, geographical distribution and reasonable gender balance, and will cooperate with other academies." | Government policy, particular individual, and global trend. |
| United Kingdom | Academy of Medical Sciences | Representation of women within the Academy's Fellowship - full report 2012. <br> (https://acmedsci.ac.uk/ file-download/35277136118550861.pdf). <br> What can Fellows do to support women in the biomedical workforce? 2015. (https://acmedsci.ac.uk/ file-download/38368569e4afccb8de.pdf). <br> Diversity section on website. (https:// acmedsci.ac.uk/about/ governance/equality-and-diversity). | Work driven by responses from fellowship and staff. |
| United Kingdom | The Royal Society | Diversity Strategy, 2019-22. (https:// royalsociety.org/-/ media/policy/ topics/diversity-in-science/2019-09-Diversity-strategy-2019-22. pdf?la=en-GB\&hash=3C 2C52DE55E915B0FC394 A05400ACFFB). | Diversity Strategy sets out how the Royal Society will use its convening power and leadership, in partnership with others, to increase diversity in STEM and support, create and develop a more inclusive scientific community. It builds on the aims and achievements of the previous Diversity Strategy, 2015-2018, as well as the strategic priorities and wider activities of the Royal Society. |


| Country | Academy | Details of the document | Driving force for the development of the document |
| :---: | :---: | :---: | :---: |
| Global and regional |  |  |  |
| Germany | Global Young Academy | The constitution calls for the removal of obstacles to the participation in science for women. See paragraph 2.2.2. (https:// globalyoungacademy. net/constitution/(). | The founding Academy members. |
| Italy | The World Academy of Sciences | As part of UNESCO, gender is one of the two global strategic priorities on which we report on every year. It is also part of the TWAS Strategic Plan 2016-2020 and reiterated in official Academy meetings. The TWAS Gender Advisory Panel has prepared two reports (2016 and 2018) on the number of women represented in TWAS at all levels including in prizes, membership, committees, council and on panels and as speakers and chairs during the TWAS General Meeting. The report is presented during the TWAS General Meeting. | UNESCO Member States and the UNESCO Executive Board for the UNESCO global strategic priority. <br> The TWAS Council, which helped set the Academy's priorities, for the TWAS Strategic Plan, 2016-2020. <br> The TWAS Gender Advisory Panel report to TWAS was prepared for the TWAS Gender Advisory Panel by co-chair Roseanne Diab, OWSD Coordinator Tonya Blowers and OWSD Secretariat Lucia Fanicchi. |

## Appendix 6: Academies that present a 'Women in Science' award, and how often the award is presented

| Region | Country | Academy | Frequency |
| :---: | :---: | :---: | :---: |
| Africa | Egypt | Academy of Scientific Research and Technology | Annually |
| Africa | Nigeria | Nigerian Young Academy | Annually |
| Americas | Brazil | Brazilian Academy of Sciences | Annually |
| Americas | Canada | Royal Society of Canada | Annually |
| Americas | Chile | Academia Chilena de Ciencias | Annually |
| Americas | Cuba | Academy of Sciences of Cuba | Annually |
| Americas | Mexico | Academia Mexicana de Ciencias | Annually |
| Americas | Peru | Academia Nacional de Ciencias | Annually |
| Americas | Venezuela | Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela | Annually |
| Asia-Pacific | Australia | Australian Academy of Science | Annually |
| Asia-Pacific | Georgia | Georgian National Academy of Sciences | Annually |
| Asia-Pacific | India | Indian National Science Academy | Every three years |
| Asia-Pacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Annually |
| Europe | Belgium | The Royal Academies for Science and the Arts of Belgium | Every three years |
| Europe | Czech Republic | Czech Academy of Sciences | Annually |
| Europe | Hungary | Hungarian Academy of Sciences | Annually |
| Europe | United Kingdom | The Royal Society | Annually |
| Global and regional | Italy | The World Academy of Sciences | Annually |
| Global and regional | Trinidad and Tobago | Caribbean Academy of Sciences | Every two years |

## Appendix 7: Descriptions of fellowships and grants devoted to women

| Country | Academy | Descriptions |
| :---: | :---: | :---: |
| Italy | The World Academy of Sciences | Through its sister organization OWSD, hosted by TWAS: - OWSD PhD fellowships; OWSD Early Career fellowships; OWSDElsevier Foundation awards. |
| Israel | Academy of Sciences and Humanities | The Ruth Arnon Postdoctoral Fellowships. |
| Mexico | Academia Mexicana de Ciencias | L'ORÉAL-UNESCO-AMC Grants for Women in Science past few years; AMC-Conacyt Scholarships for Women in Social Sciences and Humanities. |
| Cuba | Academy of Sciences of Cuba | 3 Sophia Kovalievskaia Prizes for women in Exact Sciences, awarded every two years. |
| Canada | Royal Society of Canada | Canada-Ukraine Annual Fellowships (2 awards per year, at least one to a woman) for scholars younger than 45 years of age, Canada-Japan Women in Science Program. |
| Egypt | Academy of Scientific Research and Technology | Program for empowering women <br> - "women-up". |
| Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Several research grants during the past 10 years for women's health issues, e.g. women's health status in Iran; model for women's health determinants in Iran; women's health national strategies in Iran. |
| Hungary | Hungarian Academy of Sciences | Call to support female researchers (those raising children under 14 and single parent researchers raising children under 18) who are writing their dissertation as candidature for the title of Doctor of the Hungarian Academy of Sciences. The Doctor of the Hungarian Academy of Sciences is a career stage preceding becoming a member of the Academy. |
| Austria | Austrian Academy of Sciences | L'ORÉAL-UNESCO fellowships. |

## Appendix 8: Descriptions of programmes/initiatives on Women in Science

| Country | Academy | Descriptions |
| :---: | :---: | :---: |
| Africa |  |  |
| Cameroon | Cameroon Academy of Young Scientists | Train girls (high school students) on leadership skills as a means of empowering them. Organize seminars on entrepreneurship for women in poor neighbourhoods. Embark on community health initiatives together with selected communities to identify their needs and create and implement solutions. |
| Ethiopia | Ethiopian Academy of Sciences | The academy is preparing to launch an initiative called the Gender Learning Forum in February 2020. It is aimed at addressing gender inequity at higher learning and research institutions. It is a membership-based initiative and aims to include all higher educational, research institutions and individuals. INASP, which is an international development charity, is a major partner in the initiative. |
| Ghana | Ghana Academy of Arts and Sciences | Women in Science and Engineering |
| Nigeria | Nigerian Academy of Science | In 2019, the Academy organized a Women in Science Summit focused on the role of Nigerian women scientists in the nation's sustainable development. The Summit was attended by about 100 women scientists, as well as policymakers and development partners. |
| Nigeria | Nigerian Young Academy | The Academy specifically encourages women to apply for membership and the cut-off age is 45 years as against 40 for men. |
| South Africa | Academy of Science of South Africa | The OWSD South Africa National Chapter is hosted by ASSAf. The aim is to increase and promote female participation in science and technology professions, in scientific leadership, and in decision-making processes at the national level. It also promotes recognition of the achievements of women. (https://www.owsdsa.org.za/). <br> ASSAf hosts the Africa regional focal point of GenderInSITE. (https://genderinsite.net/). |
| Americas |  |  |
| Argentina | Academia Nacional de Ciencias | The Academy set up a special ad hoc Advisory Commission called "Women for Science" dedicated to promoting the participation of women at all stages of their career, in activities of the Academy and of the national research institutions of Argentina. |

| Country | Academy | Descriptions |
| :---: | :---: | :---: |
| Brazil | Brazilian Academy of Sciences | The actions developed by the Academy (most of them through its Working Group on Women for Science) regarding gender equity aim at enhancing the participation of women in science and technology (S\&T) careers, and increasing the awareness of society, the scientific community, S\&T institutions and governmental agencies on the importance of promoting a more favourable environment for the participation of women in S\&T in Brazil. The Academy organizes meetings with sessions where the empowerment of women in science is discussed. Gender balance is a concern in the meetings organized by the Academy. Additionally, the Brazilian Academy of Sciences actively participates in the IANAS Women for Science Programme. |
| Canada | Royal Society of Canada | Canada-Japan Women in Science Programme. The Academy is active in the IANAS Women for Science Programme. The Academy has a College of New Scholars, Artists and Scientists with gender parity in its membership. |
| Chile | Academia Chilena de Ciencias | In the last 10 years there has been a strong interest in electing similar numbers of women and men in the election of new members. |
| Colombia | Colombian Academy of Exact, Physical and Natural Sciences | Colombian Network of Women Scientist Advisors in the L`Oreal Women in Science Prize. |
| Guatemala | Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | The created commission is in charge of some activities such as: increasing the number of women in the Academy, biographies of women scientists, conferences, panels, forums to motivate girls to take up science, STEM seminars to primary and secondary school teachers. |
| Honduras | National Academy of Sciences of Honduras | The Academy has a focal point for the IANAS Women for Science Programme. Undertake activities in high schools to encourage women to choose STEM careers. |
| Mexico | Academia Mexicana de Ciencias | Participate in the IANAS Women for Science Programme and have a dedicated focal point appointed to this program. |
| Peru | Academia Nacional de Ciencias | The Academy has a Women for Science Programme, which is part of IANAS. Bring together researchers from the academic institutions of Peru to generate a network of women scientists to promote the development of knowledge in S\&T. Promote the comprehensive training of women scientists in the various regions of the country and the recognition of their professional participation. Promote the formation of multidisciplinary and inter-institutional research teams, and the inclusion of the female gender, for the benefit of science and social development of Peru. (http://www.ancperu.org/). |
| United States of America | National Academy of Medicine | The Academy has a Council-related Diversity Committee that focuses on increasing demographic diversity of incoming member classes. |

| Country | Academy | Descriptions |
| :---: | :---: | :---: |
| Venezuela | Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela | There is a specific programme named "Women in Science". The scope is to identify and incorporate women with relevant scientific contributions, first as corresponding members and later on as fellow academicians, to participate and support the academy programmes. |
| Asia-Pacific |  |  |
| Australia | Australian Academy of Science | The Academy has been leading national efforts to improve gender equity in STEM. Together with the Australian Academy of Technology and Engineering, the Academy is seen as a national leader in diversity and equity, spearheading the development of critical national frameworks that provide transformative, systematic and sustained change in Australia's STEM sector including: authorship of the Women in STEM Decadal Plan-a 10-year strategy to lift the participation of girls and women in STEM education and careers. The Academy is committed to the implementation of the decadal plan by developing the Decadal Plan Champions initiative. They aim to encourage all STEM organizations to join us champions, to harness gender equity efforts and collaborate more deeply to reach a shared vision. (https://www. science.org.au/support/analysis/decadal-plans-science/women-in-stem-decadal-plan). <br> The Academy has developed the Science in Australia Gender Equity (SAGE) initiative-a transformative accreditation and gender equity improvement program for STEM higher education and research organizations based on the successful UK Athena SWAN accreditation initiative (https:// www.sciencegenderequity.org.au/). <br> The Academy recently led the following initiatives: development of STEM Women launched in August 2019, to provide a unique tool to allow everyone to discover and benefit from the breadth of women working in STEM, providing a national database of women in STEM that provides a platform for expert women to be discovered and creates opportunities to progress their careers and personal capabilities. The database currently has over 2000 profiles (www.stemwomen.org. au ); and recently supported the development of a best practice guide for improving diversity in prizes and awards by the Early- and Mid-Career Researcher Forum. (https://www.science.org.au/ files/userfiles/support/emcr/documents/emcr-improving-diversity-web.pdf). |
| India | Indian National Science Academy | The Academy has constituted a panel on women in science. In addition an Inter-Academy Panel on women in science was constituted jointly by three Academies in India, with the aim of ensuring inclusion of women in S\&T in all possible and pragmatic ways. |


| Country | Academy | Descriptions |
| :---: | :---: | :---: |
| Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Ongoing projects: 'establishment of women's health research network"; ''developing "women's health national strategies in Iran IR" which contains policy and actions on women in medical sciences and women's health research and knowledge advancement. |
| Israel | Academy of Sciences and Humanities | The Israel Young Academy is holding an international conference on "Women in Science" in 2020. |
| Pakistan | National Academy of Young Scientists | The Academy has a Women in Science Working Group which has over 50 members. |
| Sri Lanka | National Academy of Sciences of Sri Lanka | An OWSD National Chapter was established under the auspices of the Academy. |
| Europe |  |  |
| Belgium | Young Academy of Belgium (Jonge Academie) | Communication campaign about Gender in Academia. Worked on a new Charter for Gender in Academia together with Council of Flemish Universities. |
| Czech Republic | Czech Academy of Sciences | Centre for Gender \& Science at the Institute of Sociology of the Academy (https://genderaveda.cz/ en/gender-and-science/). |
| Hungary | Hungarian Academy of Sciences | The Gender Equality Framework Programme requires that all calls of the Academy for scholarships, fellowships and grants that have an age limit, extend the age limit by 2 years for each child (max 4 years) under 10 for female researchers and male researchers who certify that they stayed with their child/ren on parental leave. From 2016, extended the scope of the programme to single parents raising minors as well. |
| Hungary | Hungarian Young Academy | Provide speakers for programmes related to the topic organized by other bodies. |
| Ireland | Royal Irish Academy | Women in Leadership masterclasses, where outstanding women leaders share their experiences. An initiative sponsored by Accenture. (https://www.ria.ie/women-leadership-masterclass-series). Women on Walls initiative which seeks to make women leaders visible through a series of commissioned portraits, (https://www.ria.ie/women-walls-0). Participating in the ALLEA initiative "Women in European Academies' which will profile leading female European academicians. (www.allea.org). |
| Latvia | Association of Latvian Young Scientists | Encouraging girls in schools to choose careers in science. |
| Latvia | Latvian Academy of Sciences | Annual L'OREAL stipend Women in Science. |
| Lithuania | Lithuanian Academy of Sciences | Partner in award of L'Oréal Baltic fellowships For Women in Science, (https://www. forwomeninscience.com/en/home). |
| Poland | Polish Young Academy | Annual programme for younger female students promoting science as a career. |
| Slovakia | Slovak Academy of Sciences | Participation in Framework Programme project "Women and Youth in Science". |


| Country | Academy | Descriptions |
| :--- | :--- | :--- |
| United Kingdom | Academy of Medical <br> Sciences | SUSTAIN - a year-long programme which enables <br> female researchers to thrive in their independent <br> research careers. (https://acmedsci.ac.uk/grants- <br> and-schemes/mentoring-and-other-schemes/ <br> sustain). Project to increase women experts in the <br> media. (www.medscilife.org). |
| United Kingdom | The Royal Society | Member of, and provides secretariat for, the <br> Athena Forum, an independent and expert voice on <br> the issues of women's career progression and their <br> representation in higher education and research. |
| Germany | Global Young Academy | Gorking Group Women in Science. (https:// <br> globalyoungacademy.net/activities/women-in- <br> science/) |
| Italy | The World Academy of <br> Sciences | Through its sister organizations OWSD and <br> GenderInSITE, hosted by TWAS. |
| Trinidad and Tobago | Caribbean Academy of <br> Sciences | Membership in IANAS Women in Science <br> Programme. Workshops in STEM and inquiry- <br> based science education. |

## Appendix 9: How the academy addresses women's issues, by region ( $N=84$ )

|  | Africa <br> $(\mathbf{1 2 )}$ | Americas <br> $(16)$ | Asia- <br> Pacific <br> $(18)$ | Europe <br> (33) | Global <br> and <br> regional <br> $(5)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| The academy has linkages with one or more <br> international organization(s)/networks <br> that promote(s) women's activities | $6(50 \%)$ | $13(81 \%)$ | $6(33 \%)$ | $7(21 \%)$ | $2(40 \%)$ |
| The academy has a committee that <br> addresses women's issues | $4(33 \%)$ | $10(63 \%)$ | $7(39 \%)$ | $9(27 \%)$ | $1(20 \%)$ |
| The academy has one or more individuals <br> who advise(s) on women's issues | $3(25 \%)$ | $11(69 \%)$ | $5(28 \%)$ | $9(27 \%)$ | $2(40 \%)$ |
| The academy has linkages with one or more <br> national organization(s)/networks that <br> promote(s) women's activities | $6(50 \%)$ | $9(56 \%)$ | $4(22 \%)$ | $9(27 \%)$ | $1(20 \%)$ |
| The academy 'celebrates' national and/or <br> international women's days | $3(25 \%)$ | $9(56 \%)$ | $5(28 \%)$ | $8(24 \%)$ | $1(20 \%)$ |
| The academy has linkages with one or <br> more organization(s)/initiative(s) that <br> promote(s) the application of a 'gender <br> lens' | $6(50 \%)$ | $4(25 \%)$ | $3(17 \%)$ | $5(15 \%)$ | $1(20 \%)$ |

## Appendix 10: Details provided for "The academy has linkages with one or more international organization(s)/network(s) that promote(s) women's activities"

| Region | Country | Academy | Names of organizations/networks |
| :---: | :---: | :---: | :---: |
| Africa | Egypt | Academy of Scientific Research and Technology | Global Research Council, OWSD |
| Africa | Ethiopia | Ethiopian Academy of Sciences | INASP, Packard Foundation |
| Africa | Ghana | Ghana Academy of Arts and Sciences | Women in Science and Engineering, NASAC |
| Americas | Argentina | Academia Nacional de Ciencias | IANAS |
| Americas | Canada | Royal Society of Canada | L'Oréal-UNESCO Women in Science |
| Americas | Colombia | Colombian Academy of Exact, Physical and Natural Sciences | IAP and IANAS Women for Science Program |
| Americas | Cuba | Academy of Sciences of Cuba | IANAS, ISC regional office, TWAS, OWSD and the Iberoamerican Program for Science, Technology and Development |
| Americas | Dominican Republic | Academia de Ciencias de la República Dominicana | IANAS |
| Americas | Peru | Academia Nacional de Ciencias | IANAS |
| Americas | United States of America | The National Academy of Sciences | ISC and many of its discipline-specific unions (including the ones involved in the Gender Gap project). |
| AsiaPacific | Australia | Australian Academy of Science | Member of IAP for Science, the IAP for Research and the IAP for Health. Founding member of the Association of Academies and Societies of Sciences in Asia (AASSA). Responsible for Australia's representation on ISC. Professor Cheryl Praeger, former Foreign Secretary of the Australian Academy of Science, chairs the AASSA Special Committee for Women in Science and Engineering (WISE). |
| AsiaPacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Various UN bodies |
| AsiaPacific | Palestine | Palestine Academy for Science and Technology | OWSD, IAP and TWAS |
| Europe | Belgium | Young Academy of Belgium (Jonge Academie) | 500 Women Scientists. <br> (https://500womenscientists.org/) |
| Europe | Czech Republic | Czech Academy of Sciences | ALLEA, International Human Rights Network of Academies and Scholarly Societies |
| Europe | Finland | Young Academy Finland | European Women Rectors Association |
| Europe | Germany | German National Academy of Sciences Leopoldina | IAP |


| Europe | Hungary | Hungarian Academy of <br> Sciences | UNESCO, ISC, IAP, ALLEA and <br> European Institute for Gender Equality |
| :--- | :--- | :--- | :--- |
| Europe | United Kingdom | The Royal Society | Partners with academies and <br> institutions throughout the scientific <br> community to maximise the <br> effectiveness of diversity initiatives |

## Appendix 11: Details provided for "The academy has a committee that addresses women's issues"

| Region | Country | Academy | Nature of membership and role |
| :---: | :---: | :---: | :---: |
| Africa | Cameroon | Cameroon Academy of Sciences | Participation in consensus studies and workshops. |
| Africa | Cameroon | Cameroon Academy of Young Scientists | Participate in conference/debate during the International Women's Day on the role of women scientists and the development of the country. |
| Africa | Egypt | Academy of Scientific <br> Research and <br> Technology | National committee for Women in Science. |
| Africa | South Africa | Academy of Science of South Africa | Quarterly updates on women in science activities of the Academy to Council. Executive Committee of OWSD National Chapter provides leadership on women in science matters. |
| Americas | Argentina | Academia Nacional de Ciencias | Women for Science ad hoc Advisory Commission. |
| Americas | Brazil | Brazilian Academy of Sciences | Working Group on Women for Science is composed of members and non-members of the Academy. It develops activities that enhance the participation of women in S\&T careers and promote a more inclusive environment for women. |
| Americas | Canada | Royal Society of Canada | Committee that sets targets for equity, diversity and inclusion. Also founded a College of New Artists, Scholars and Scientists who elect equal numbers of men and women. |
| Americas | Cuba | Academy of Sciences of Cuba | Permanent Commission of Women in Sciences, promoting and monitoring the presence of women in all scientific activities held in the Academy. |
| Americas | Guatemala | Academia de Ciencias Medicas, Físicas y Naturales de Guatemala | Commission of Women in Science that carries out annual planned activities. |
| Americas | Nicaragua | Nicaraguan Academy of Sciences | Academy Vice President is the focal point for the IANAS Women for Science programme. |
| Americas | Peru | Academia Nacional de Ciencias | Senior academician is the focal point for the IANAS Women for Science programme. |
| Americas | United States of America | National Academy of Medicine | Committee on Diversity and Inclusion. Often engage in specific women-related issues in health and medicine in consensus and convening activities. |
| Americas | United States of America | The National Academy of Sciences | Committee on Women in Science, Engineering and Medicine (https://sites. nationalacademies.org/pga/cwsem/). |
| Americas | Venezuela | Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela | Women in science award for women in science, young women scientists. |


| Region | Country | Academy | Nature of membership and role |
| :--- | :--- | :--- | :--- |
| Asia-Pacific | Australia | Australian Academy of <br> Science | The Equity and Diversity Reference Group is <br> an advisory body to the Academy Council. It <br> promotes diversity, for example, of gender, <br> ethnicity, age, geographical distribution <br> and scientific disciplines, and the principles <br> of inclusion, equal opportunity, fairness <br> and transparency in Academy policies <br> and procedures. Member of Council is <br> designated as the spokesperson for Diversity <br> and Inclusion on the Executive Committee (a <br> subset of Council). |
| Asia-Pacific | India |  | Indian National Science <br> Academy |
| Asia-Pacific | Islamic Ren on women in science. Also member of <br> IAP panel on women with sister academies. |  |  |
| of Iran | Asia-Pacific | New Zealand | The Iranian Academy of <br> Medical Sciences | | Woyal Society Te |
| :--- |
| Apārangi |$\quad$| Academy Executive Panel. |
| :--- |
| Asia-Pacific |

## Appendix 12: Details provided for "The academy has linkages with one or more national organization(s)/network(s) that promote(s) women's activities"

| Region | Country | Academy | Names of organizations/networks |
| :---: | :---: | :---: | :---: |
| Africa | Cameroon | Cameroon Academy of Sciences | Higher Women in Science. |
| Africa | Ethiopia | Ethiopian Academy of Sciences | Society for Ethiopian Women in Science and Technology. |
| Africa | Ghana | Ghana Academy of Arts and Sciences | Women in Science and Engineering. |
| Africa | South Africa | South African Young Academy of Science | OWSD South Africa National Chapter. |
| Africa | Zimbabwe | Zimbabwe Academy of Sciences | OWSD Zimbabwe National Chapter. |
| Americas | Argentina | Academia Nacional de Ciencias | Academy of Exact, Physical and Natural Sciences, Museo Histórico. |
| Americas | Canada | Royal Society of Canada | Canada's Tri-Councils (funding agencies), Office of the National Science Advisor Canadian Science Policy Forum, Let's Talk Science. |
| Americas | Colombia | Colombian Academy of Exact, Physical and Natural Sciences | Colombian Network of Women Scientists. |
| Americas | Cuba | Academy of Sciences of Cuba | Ministries, enterprises, universities, national scientific societies, and Centre of Women Studies of the Federation of Cuban Women. |
| Americas | Dominican Republic | Academia de Ciencias de la República Dominicana | IANAS Women for Science programme. |
| Americas | Guatemala | Academia de Ciencias <br> Medicas, Físicas y <br> Naturales de Guatemala | IANAS Women for Science programme. |
| Americas | Nicaragua | Nicaraguan Academy of Sciences | Gender studies group of the Universidad Centroamericana. |
| Americas | Peru | Academia Nacional de Ciencias | National Council of S\&T, IANAS. |
| Americas | United States of America | The National Academy of Sciences | American Association for the Advancement of Science; American Chemical Society; American Physical Society; American Mathematics Society; and many other professional societies and many federal agencies. |
| Asia-Pacific | Australia | Australian Academy of Science | Collaborates with Australian Academy of Technology and Engineering to roll out the SAGE pilot, which has been adapted from the Athena SWAN Charter. (https://www. sciencegenderequity.org.au/). Also linkages with a range of national gender equity organizations and activities. |


| Region | Country | Academy | Names of organizations/networks |
| :---: | :---: | :---: | :---: |
| Asia-Pacific | India | Indian National Science Academy | National Academy of Sciences, India and Indian Academy of Sciences. |
| Asia-Pacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Vice Presidency for Women and Family Affairs, Office of Women's Affairs in Ministry of Health, Office of Women's Affairs in all Universities of Medical Sciences. |
| Europe | Belgium | Young Academy of Belgium (Jonge Academie) | Belgian Women in Science (http:// www.bewise.be); Rosa vzw (centre for expertise on feminism) (https:// www.rosavzw.be/nl/); Institute for the Equality of Women and Men (https:// igvm-iefh.belgium.be/en); <br> Informal network of gender \& diversity officers at the universities and other research institutes. |
| Europe | Finland | Young Academy Finland | Ministry for Education and Culture, Council of Finnish Academies (incl. sub-committee on human rights). |
| Europe | Germany | German National Academy of Sciences Leopoldina | German Research Foundation, Junge Akademie at the Berlin-Brandenburg Academy of Sciences and Humanities. |
| Europe | Hungary | Hungarian Academy of Sciences | Association of Hungarian Women in Science, the Hungarian National Commission for UNESCO. |
| Europe | Hungary | Hungarian Young Academy | Association for Women in Science (www.nokatud.hu). |
| Europe | Netherlands | Royal Netherlands Academy of Arts and Sciences | Dutch Network of Women Professors. |
| Europe | United Kingdom | Academy of Medical Sciences | Academy is a member of Equality, Diversity and Inclusion in Science and Health (https://edisgroup.org/) and the Athena Forum (https://www. athenaforum.org.uk/). |
| Europe | United Kingdom | The Royal Society | Member of, and provides secretariat for, the Athena Forum. |
| Global and regional | Trinidad and Tobago | Caribbean Academy of Sciences | Institute for Gender and Development Studies at University of West Indies. |

## Appendix 13: Details provided for "The academy 'celebrates' national and/or international women's days"

| Region | Country | Academy | Names and manner of celebration |
| :--- | :--- | :--- | :--- |
| Africa | Cameroon | Cameroon Academy of <br> Young Scientists | 4 members of the Academy were <br> panellists in the conference/ <br> debate organized by the Ministry of <br> Scientific Research and Innovation for <br> international Women's Day. |
| Africa | South Africa | Academy of Science of <br> South Africa | National Women's Day - use the entire <br> month of August to raise awareness of <br> the women members of the Academy <br> and their contributions. Participate in <br> the South African Women in Science <br> annual awards |
| Africa | South Africa | South African Young <br> Academy of Science | Dedicated social media posts. |
| Americas | Brazil | Brazilian Academy of <br> Sciences | International Women's Day (8 March) <br> mainly through social media accounts. |
| Americas | Canada | Royal Society of <br> Canada | Annual celebration of achievements <br> by women and planning for 50th <br> anniversary of the International <br> Woman's Year in 2025. |
| Americas | Colombia | Colombian Academy <br> of Exact, Physical and <br> Natural Sciences | International Day for Girls and <br> Women in Science (11 February) and <br> International Women's Day (8 March). |
| Americas | Cuba | Academy of Sciences <br> of Cuba | International Day for Girls and <br> Women in Sciences (11 February) <br> and International Women's Day (8 |
| March). Organize panels, roundtables, |  |  |  |
| invite prominent and young women |  |  |  |
| in sciences to speak about their |  |  |  |
| trajectories, experiences, life stories. |  |  |  |$|$| Americas |
| :--- |

\begin{tabular}{|c|c|c|c|}
\hline Region \& Country \& Academy \& Names and manner of celebration <br>
\hline Asia-Pacific \& Australia \& Australian Academy of Science \& International Day of Women and Girls in Science (11 February). Provide a range of educational and parental engagement activities. In collaboration with SAGE, also hosting 'Catalysing Gender Equity 2020: Be Part of the Solution'. Aim is to drive the implementation of the Women in STEM Decadal Plan. (https://aas.eventsair. com/catalysing-gender-equity/). International Women's Day (8 March). <br>
\hline Asia-Pacific \& India \& Indian National Science Academy \& Lectures by eminent women scientists. <br>
\hline Asia-Pacific \& Islamic Republic of Iran \& The Iranian Academy of Medical Sciences \& National Women's Day, Women's Health Day and week celebrations by Ministry of Health and Medical Education and all Medical Sciences Universities. <br>
\hline Asia-Pacific \& Mongolia \& Mongolian Academy of Sciences \& International Women`s Day is a national holiday and the Academy follows the country regulation. <br>
\hline Asia-Pacific \& Pakistan \& National Academy of Young Scientists \& International Day of Women and Girls in Science (11 February).. <br>
\hline Europe \& Austria \& Austrian Academy of Sciences \& International Women's Day (8 March) - public lecture. National Girls' Day events organized by institutes of the Academy. <br>
\hline Europe \& Belgium \& Young Academy of Belgium (Jonge Academie) \& International Day for Women and Girls in Science (11 February). Kicked off gender in academia awareness raising campaign. <br>
\hline Europe \& Finland \& Young Academy Finland \& International Day for Women and Girls in Science (11 February) and International Women's Day (8 March). Social media campaign to promote female members. <br>
\hline Europe \& Hungary \& Hungarian Academy of Sciences \& 3 prizes for Women in Excellence in Science. Award takes place on International Women's Day since 2013. The award ceremony takes place at the Palace of the Academy connected to Women's Day. <br>
\hline Europe \& Lithuania \& Lithuanian Academy of Sciences \& International Women's Day (8 March). Women are congratulated with tulips. <br>
\hline Europe \& Republic of North Macedonia \& Macedonian Academy of Sciences and Arts \& Day or weekend field-trip is organized for all female employees at the Academy (exclusively), and the costs are covered by the Academy. <br>

\hline Europe \& United Kingdom \& Academy of Medical Sciences \& | International Women's Day through social media channels, blogs on website and publication of report. |
| :--- |
| Publication of \#MedSciLife profile in 2019. Also held a SUSTAIN Celebration Event. (https://acmedsci.ac.uk/ sustain). | <br>

\hline
\end{tabular}

| Region | Country | Academy | Names and manner of celebration |
| :--- | :--- | :--- | :--- |
| Europe | United Kingdom | The Royal Society | International Women's Day 8 March), <br> Ada Lovelace Day and International <br> Day of Women and Girls in Science (11 <br> February). |
| Global and <br> regional | Italy | The World Academy <br> of Sciences | TWAS and OWSD organize celebrations <br> for International Day of Women and <br> Girls in Science (11 February) on the <br> ICTP campus in Trieste and attend the <br> UN celebrations in New York. |

## Appendix 14: Details provided for "The academy has linkages with one or more organization(s)/initiative(s) that promote(s) the application of a 'gender lens'"

| Region | Country | Academy | Names of organizations/initiatives |
| :---: | :---: | :---: | :---: |
| Africa | Cameroon | Cameroon Academy of Sciences | Higher Women in Science |
| Africa | Ethiopia | Ethiopian Academy of Sciences | Packard Foundation |
| Africa | Ghana | Ghana Academy of Arts and Sciences | NASAC |
| Africa | Nigeria | Nigerian Academy of Science | GenderInSITE Africa and the OWSD Nigeria National Chapter. |
| Africa | South Africa | Academy of Science of South Africa | GenderInSITE - the Academy hosts the regional focal point for Africa. |
| Africa | South Africa | South African Young Academy of Science | OWSD South Africa |
| Americas | Canada | Royal Society of Canada | Canadian Tri-Councils |
| Americas | Cuba | Academy of Sciences of Cuba | UNESCO in Latin America and the Caribbean and GenderInSITE |
| Americas | Peru | Academia Nacional de Ciencias | IANAS |
| Asia-Pacific | Australia | Australian Academy of Science | Researchers and other academics across Australia's higher education and research sector apply a gender lens in research and teaching approaches. |
| Asia-Pacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Deputy of Research and Technology, Ministry of Health and Medical Education, and related research centres in Medical Sciences Universities, |
| Europe | Belgium | Young Academy of Belgium (Jonge Academie) | Belgian Women in Science (http://www. bewise.be). <br> European Commission, RRI (Responsible Research and Innovation) focus as crosscutting issue in Horizon 2020, of which gender lens to research content is one of the 6 pillars. |
| Europe | Finland | Young Academy Finland | Together with Nordic and Baltic Young Academies, issued a statement on gender equality in research in 2019. Hosted an event on gender in research. |
| Europe | Ireland | Royal Irish Academy | ALLEA, ISC |
| Europe | Netherlands | Royal Netherlands Academy of Arts and Sciences | Dutch Network of Women Professors |
| Europe | United Kingdom | The Royal Society | Work in partnership with academies and institutions throughout the scientific community to maximise the effectiveness of diversity initiatives. |
| Global and regional | Italy | The World Academy of Sciences | GenderInSITE |

## Appendix 15: Details about the reports that specifically address issues related to women or gender

| Region | Country | Academy | Details |
| :--- | :--- | :--- | :--- |
| Africa | Cameroon | $\begin{array}{l}\text { Cameroon Academy of } \\ \text { Sciences }\end{array}$ | $\begin{array}{l}\text { The Problems of Urbanization in } \\ \text { Cameroon: Strategies for Solutions, } \\ \text { pages 35-36: Gender dimensions of } \\ \text { food systems in urban development } \\ \text { in Cameroon. (http://www.casciences. } \\ \text { org). }\end{array}$ |
| Africa | Nigeria | $\begin{array}{l}\text { Nigerian Young } \\ \text { Academy }\end{array}$ | $\begin{array}{l}\text { Report of Workshop for Early Career } \\ \text { Women Scientists (2017). }\end{array}$ |
| Africa | South Africa | $\begin{array}{l}\text { Academy of Science of } \\ \text { South Africa }\end{array}$ | $\begin{array}{l}\text { Pathways to Success: Bringing } \\ \text { a Gender Lens to the Scientific } \\ \text { Leadership of Global Challenges (2018). } \\ \text { Gender and Innovation: Implications } \\ \text { for Sustainable Development (2017). } \\ \text { Women for Science: Inclusion and } \\ \text { Participation on Academies of Science } \\ \text { (2015). }\end{array}$ |
| Africa | South Africa | $\begin{array}{l}\text { Inquiry-Based Science Education: } \\ \text { Increasing Participation of Girls in } \\ \text { Science in sub-Saharan Africa Policy- } \\ \text { makers' Booklet (2011). } \\ \text { (http://research.assaf.org.za }\end{array}$ |  |
| (browse?value=SDG+5\&type=subject). |  |  |  |$\}$


| Region | Country | Academy | Details |
| :---: | :---: | :---: | :---: |
| Americas | Peru | Academia Nacional de Ciencias | Information on the activities of the Peruvian Focal Point in Academy Bulletin. (http://www.ancperu.org/). <br> Women for Science Digital Bulletin, Decentralized Workshops. (https://es.calameo.com/ read/005100307d7beg9cco304). |
| Americas | United States of America | The National Academy of Sciences | Many. See www.nap.edu |
| Asia- <br> Pacific | Australia | Australian Academy of Science | Academy co-authored the Women in STEM Decadal Plan with the Australian Academy of Technology and Engineering to provide a 10 -year strategy to lift the participation of girls and women in STEM education and careers and provide information on the current context of participation of girls and women in STEM. (https:// www.science.org.au/support/analysis/ decadal-plans-science/women-in-stem-decadal-plan). |
| AsiaPacific | India | Indian National Science Academy | Collaborative publication with other Indian academies on "Women in Science \& Technology" in 2016. |
| AsiaPacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Report on a survey on women's health research publications in Iran. |
| Europe | Belgium | Young Academy of Belgium (Jonge Academie) | Charter Gender in Academia 2019, by Young Academy \& University Council VLIR (Dutch only: (https:// jongeacademie.be/wp-content/ uploads/2019/06/Gendercharter_ VLIR-JA.pdf)). |
| Europe | Czech Republic | Czech Academy of Sciences | (https://genderaveda.cz/en/ publications/monitoring-reports/). |
| Europe | Germany | Die Junge Akademie | Before 2015: Gleichstellung als Grundbedingung für Offenheit, Freiheit und Wettbewerb in der Wissenschaft (Equality as a basic condition for openness, freedom and competition in science) 2008; (https://www.diejungeakademie.de/ fileadmin/user upload/Dokumente/ aktivitaeten/wissenschaftspolitik/ stellungsnahmen_broscheuren/901 Positionspapier_Gleichstellung.pdf). |
| Europe | Hungary | Hungarian Academy of Sciences | 'Year of Women' at the Hungarian Academy of Sciences - Efforts to Promote Women's Academic Career. |
| Europe | Hungary | Hungarian Young Academy | Report on the state of young researchers in Hungary. (https:// mta.hu/data/dokumentumok/ fiatal_kutatok_helyzete_felmeres_ eredmeny.pdf.) |


| Region | Country | Academy | Details |
| :---: | :---: | :---: | :---: |
| Europe | United Kingdom | Academy of Medical Sciences | Representation of women within the Academy's Fellowship - full report 2012. (https://acmedsci.ac.uk/file-download/35277-136118550861.pdf). <br> Women in STEM careers: Response to House of Commons Science \& Technology Committee inquiry 2013. (https://acmedsci.ac.uk/file-download/34740-525e971c66677.pdf). <br> What can Fellows do to support women in the biomedical workforce? 2015. (https://acmedsci.ac.uk/file-download/38368-569e4afccb8de.pdf). <br> Annual diversity report. (https:// acmedsci.ac.uk/about/governance/ equality-and-diversity/annual-diversity-report). |
| Global and regional | Trinidad and Tobago | Caribbean Academy of Sciences | Part of IANAS initiatives. Joint Publication with National Institute of Higher Education Science \& Technology. Published booklet on Women in Science. |

## Appendix 16: Details about the policies of academies that address sexual harassment in the workplace

| Region | Country | Academy | Details |
| :---: | :---: | :---: | :---: |
| Africa | Ethiopia | Ethiopian Academy of Sciences | Dedicated "Sexual harassment policy". Policy was revised last year and is now approved by the Board. |
| Africa | Nigeria | Nigerian Academy of Science | The Academy's Conditions of Service has a section that addresses sexual harassment in the workplace. |
| Americas | Canada | Royal Society of Canada | Policy developed by the Governance and Ethics Committee. |
| Americas | United States of America | National Academy of Medicine | Statement on Sexual Harassment and Other Prohibited Types of Harassment (applies to all volunteers and employees). Code of Conduct (applies to all members). |
| Americas | United States of America | The National Academy of Sciences |  <br> Rendition=Primary <br> \&noSaveAs=\&Revision <br> SelectionMethod <br> =latest\&filetypeGSA=.pdf) |
| Asia-Pacific | Australia | Australian Academy of Science | Code of Conduct (https://www.science. org.au/about-us/governance/codeconduct). The Academy has the following policies for all secretariat staff, which are each available on the staff intranet: <br> - Harassment, Discrimination and Bullying Policy <br> -Harassment, Discrimination and Bullying Procedure <br> - Sexual Harassment Procedure |
| Asia-Pacific | India | Indian National Science Academy | Committee on sexual harassment of women in the workplace. |
| Asia-Pacific | Islamic Republic of Iran | The Iranian Academy of Medical Sciences | Women's health national strategies in Iran include policies on violence against women as a dedicated policy. |
| Asia-Pacific | Israel | Academy of Sciences and Humanities | Part of an employee relations policy, as required by law. |
| Asia-Pacific | New Zealand | Royal Society Te Apārangi | Acceptable behaviour at events. |
| Europe | Germany | Die Junge Akademie | Equal Opportunities Officer at Leopoldina |
| Europe | Germany | German National Academy of Sciences Leopoldina | The Equal Opportunities Officer and Work Council. Rules of procedure for equality between women and men does not address sexual harassment explicitly but the Federal Equality Act which also applies to the Leopoldina does. |
| Europe | Ireland | Royal Irish Academy | Dignity and Respect in the Workplace Policy. |


| Region | Country | Academy | Details |
| :--- | :--- | :--- | :--- |
| Europe | Netherlands | $\begin{array}{l}\text { Royal Netherlands } \\ \text { Academy of Arts and } \\ \text { Sciences }\end{array}$ | $\begin{array}{l}\text { Employee relations policy and external } \\ \text { confidential counsellor. }\end{array}$ |
| Europe | Slovakia | $\begin{array}{l}\text { Slovak Academy of } \\ \text { Sciences }\end{array}$ | Code of Ethics. |
| Europe | Sweden | $\begin{array}{l}\text { Royal Swedish Academy } \\ \text { of Sciences }\end{array}$ | Part of the workplace policy. |
| Europe | United Kingdom | $\begin{array}{l}\text { Academy of Medical } \\ \text { Sciences }\end{array}$ | $\begin{array}{l}\text { Internal Bullying and Harassment Policy } \\ \text { that covers staff and Code of Conduct for } \\ \text { Fellows with accompanying disciplinary } \\ \text { procedure: } \\ \text { (https://acmedsci.ac.uk/ }\end{array}$ |
| more/news/new-code-of-conduct- |  |  |  |
| for-fellows-working-on-academy-of- |  |  |  |
| medical-sciences-business); |  |  |  |
| (https://acmedsci.ac.uk/file- |  |  |  |$]$| download/27337666); |
| :--- |
| (https://acmedsci.ac.uk/file- |
| (download/73029576). |

## Appendix 17: Additional remarks about the role of women or genderrelated issues in the academy's activities

| Academy | Remarks |
| :---: | :---: |
| South African Young Academy of Science | Given the country's past, there is not just a focus on gender but on achieving race and geographical representation as well. |
| Australian <br> Academy of Science | In addition to the contributions to both diversify the academy fellowship and leadership, as well as the academy leading a range of projects and activities that drive gender equity in STEM, the academy has taken the following actions: <br> - All members of the academy council have agreed to take the panel pledge and encourage other fellows to do so. By taking the pledge, a Male Champions of Change initiative, fellows will seek to ensure equity of voice is considered in panels and conferences they are involved in, reserving the right to withdraw if an inclusive approach is not evident, and work with organisers of panels and conferences to take gender diversity into account. <br> - The academy's president and chief executive annually report to council data on the diversity of the fellowship and staff which inform deliberations at the highest levels. The academy is developing tools to measure gender equity across the breadth of its activities. <br> - Currently two awards, the Dorothy Hill Medal and Nancy Millis Medal, are awarded to women researchers. Efforts are underway to include more women-only awards, recognise the outstanding commitment of women to science by naming an open award after a women researcher, and encourage more women to apply for all awards. <br> - The academy aims to build public awareness and understanding of science. This occurs through multiple avenues including through our events, social media and science information website, Curious. We have highly effective communications and outreach strategies that showcase the diversity of expertise across the STEM sector and strive for equity of voice in both the participants who deliver our content and those who review our reporting of science to ensure its accuracy. We are developing tools to measure these efforts and report to our leadership on progress. We would like to improve the gender diversity of our audience on social media platforms, noting the cultural and accessibility barriers that exist and the role that platforms and media outlets themselves play in appealing to more diverse audiences. We have developed targeted communication products to encourage greater diversity in our activities and in our fellowship, including video and written materials (https://youtu.be/KxjxgKWseg). <br> - We strive for gender balance in our sponsored events and outreach activities. For example, the 2019 Canberra Speaker Series consisted of 12 speakers, of which nine were women representing a range of career stages, expertise and academic and industry engagement. <br> - To reduce the barriers for participation in our events, we regularly offer grants and in-house carer services to enable greater involvement for those with caring responsibilities or other challenges that may otherwise prevent their participation. <br> - As the custodian of the Shine Dome in Canberra, the academy is also encouraging organizations that wish to hold events at the Shine Dome to ensure they have considered equity in voice in planning their event. STEM organizations offered a discounted venue hire are asked to demonstrate efforts to address gender diversity in their event, or at the very least, acknowledge the absence of it and publicly discuss mechanisms to address it in their discipline (https://www.science.org.au/about-us/ shine-dome). <br> - A biannual staff survey is conducted to ensure these measures meet the requirements of the secretariat and adjust if necessary. |


| Academy | Remarks |
| :--- | :--- |
| Academie des <br> Sciences pour <br> les Jeunes en <br> République <br> Démocratique <br> du Congo | Academy is in its infancy and does not yet have a focus on gender, but with this kind of <br> awareness campaign, we will definitely consider it in future plans. |
| Nicaraguan <br> Academy of <br> Sciences | Unwritten policy of promoting greater participation of women. Recently, 4 women <br> have joined the Academy. |
| Polish Young <br> Academy | No institutionalised and formally targeted activities / laws are in place, but previous <br> governing body composed exclusively of women and election of members takes <br> account of need and benefits of including more women. |
| Latvian <br> Academy of <br> Sciences | STEM is a topic for L'OREAL prize for Women in Science. |
| Academy of <br> Science of <br> South Africa | Academy has been requested twice by government to report on Women in Science <br> for the UN and Africa-wide protocols or frameworks like the Convention on the <br> Elimination of All Forms of Discrimination Against Women. |
| Israel Academy <br> of Sciences and <br> Humanities | Academy has female leadership - President, Director General, Director of <br> International Affairs, Director of External Affairs, and the heads of both academic <br> divisions, and the publishing house. |
| Academy <br> of Medical <br> Sciences in the <br> UK | Equality, diversity and inclusivity work focuses on a broad range of characteristics <br> including gender, ethnicity, disability and sexual orientation as well as regional, <br> subject, sector and specialty diversity. Serious about learning both from successes and <br> failures and believe that transparency is key for sector-wide improvement. Publish <br> an annual diversity report spanning all activities. (https://acmedsciac.uk/about/ <br> governance/equality-and-diversity/annual-diversity-report). |
| The Royal <br> Society in the <br> UK | Increased the number of images of women scientists in the public areas of its London <br> offices. Collect archive material on women scientists for promotional work. |
| Macedonian <br> Academy of <br> Sciences and <br> Arts | Female inclusivity in all decision-making positions seems a very distant goal. All <br> leading positions are occupied by males and there is no single initiative towards <br> improving the existing imbalance. |
| Young <br> Academy of <br> Belgium (Jonge <br> Academie) | Without any efforts, do not experience any problems with gender balance in <br> membership. Acknowledge that there may be a problem in senior academies. |

## Appendix 18: Details of document (that explicitly mentions the need for increased participation by women in its activities)

| Organization | Details |
| :---: | :---: |
| Association of Science and Technology Centres | Commitment to diversity, accessibility, inclusion, and equity. (https://www.astc. org/about/equity/). |
| European Consortium for Political Research | Undertake annual gender study that reports on women's participation in events, research groups, governance, and operations. In 2018, published a Gender Equality Plan with targets to reach gender parity across all areas of the organization. Follow up on progress against targets. |
| International Union of Crystallography | Strive to achieve gender balance in all institutions and activities bearing in mind other diversity needs and obligations to geographic and academic discipline representation. Statement approved in 2017. Those seeking support from the Union for Congresses, meetings, workshops and schools will also have to demonstrate their efforts to address gender balance. |
| International Peace Research Association | Gender equality, empowerment, combatting gender discrimination and engendered peace building. |
| International Political Science Association | Mission statement (https://www.ipsa.org/organization/mission-statement). |
| International Studies Association | Committee on the Status of Women formed in 2007 and tasked to analyze membership data and provide recommendations to the Governing Council that will increase the status and visibility of women in international studies. <br> (https://www.isanet.org/ISA/Governance/Committees/Status-of-Women). |
| International Union of Biological Sciences | Application form for conference grants specifies women's representation in the organizing committee and gender balance in the invited speakers. Young scientists' conference grant requires equal number of males and females. |
| International Union of Forest Research Organizations | Strategy (2020-2024) currently in approval process. Network cooperation: Increase equity, inclusiveness and communication. |
| International Union of Geodesy and Geophysics | Guidelines for applications for support of scientific meetings - adopted in 2008, modified in 2011, and 2015. (http://www.iugg.org/meetings/guidelines.php). |
| International Union of Geological Sciences | Statutes and by-laws. |
| International Union of Immunological Societies | Gender Equality Committee established in 2020, with mission to encourage promotion of women immunologists around the world and to help with career development issues of women and young scientists. (https://iuis.org/committees/ gec/(). Also include a statement in application letter. |
| International Union of Pure and Applied Physics | Working group on women in physics created in 1999. Since then all general assemblies have approved resolutions and recommendations to increase the participation of women. Sponsored conferences have to fulfill conditions on the fraction of women on committees and among invited speakers and must include a statement on harassment in conference material. A statement (Waterloo Charter) is up for approval at the next general assembly. |


| Organization | Details |
| :--- | :--- |
| Pacific Science <br> Association | By-laws acknowledge the importance of increasing the participation of women, <br> young scientists, Pacific Island scientists, and other underrepresented group. In <br> 1991, held the first Session on Women and Development and created Scientific <br> Working Group on Human Resources for the Future, which addresses inequities <br> in science. 4 years later held a meeting on women and science at the congress <br> in Beijing. At most congresses there is a strong series of sessions on women and <br> other underrepresented groups in science, increasingly over the years, led my local <br> organizers. |
| Society for the <br> Advancement of <br> Science in Africa | Subscribes and encourages gender equality in all aspects of its structure and <br> activities. |

## Appendix 19: Details of report(s) that specifically address issues related to women or gender

| Organization | Details |
| :---: | :---: |
| Association of Science and Technology Centres | Girls RISEnet published "Girls, Equity, and STEM in Informal Learning Settings". (http://girlsrisenet.org/sites/default/files/ SAVI\%20Lit\%20Review\%20Sept\%202013.pdf). |
| International Commission for Optics | Women in Light Science - an exhibition that celebrates the scientific contribution of 12 women researchers who have made fundamental discoveries in Optics and Photonics. (http://e-ico. org/node/319). |
| International Council for Industrial and Applied Mathematics | Member of Gender Gap in Science project. (https://gender-gap-in-science.org), Published report. (https://gendergapinscience. files.wordpress.com/2020/02/final_report 20200204-1.pdf). |
| International Federation of Library Associations and Institutions | Special Interest Group on Women, Information and Libraries (https://www.ifla.org/women-information-and-libraries) that regularly produces papers at annual conferences. (http://library. ifla.org/view/divisions/div4=5Fmol=5Fwom.html). |
| International Institute for Applied Systems Analysis | Regular internal reports on gender issues to Governing Council. |
| International Mathematical Union | Member of Gender Gap in Science project. (https://gender-gap-in-science.org), Published report. (https://gendergapinscience. files.wordpress.com/2020/02/final report 20200204-1.pdf). |
| International Peace Research Association | Several books and scientific articles. |
| International Political Science Association | (https://www.ipsa.org/publications/ipsa-gender-diversity-monitoring-report). |
| International Sociological Association | Research Committee on Women in Society focusses on issues related to women and gender. (https://www.isa-sociology.org/ en/research-networks/research-committees/rc32-women-gender-and-society). |
| International Studies Association | Committee on the Status of Women. (https://www.isanet.org/ ISA/Governance/Committees/Status-of-Women) |
| International Union for the Scientific Study of Population | Article in online news magazine. (https://www.niussp.org/). Various papers in union series with Oxford University Press -pre-2005 Women in the Labour Market in Changing Economies; Women's Empowerment and Demographic Processes; Women, Poverty and Demographic Change. |
| International Union of Biological Sciences | Member of Gender Gap in Science project. (https://gender-gap-in-science.org), Published report. (https://gendergapinscience. files.wordpress.com/2020/02/final_report_20200204-1.pdf). |
| International Union of Forest Research Organizations | "Gender and Forestry". (https://www.iufro.org/de/science/ divisions/division-6/60000/60800/publications/). <br> "Gender Research in Forestry". (https://www.iufro.org/ de/science/divisions/division-6/60000/60800/60801/ publications/). <br> Background study on forests, peaceful and inclusive societies, reduced inequality, education, and inclusive institutions at all levels prepared for 14th UN Forum on Forests. (https:// researchportal.helsinki.fi/en/publications/forests-peaceful-and-inclusive-societies-reduced-inequality-educa). |


| Organization | Details |
| :--- | :--- |
| International Union of Geodesy and <br> Geophysics | Anti-harassment guidelines. <br> (http://www.iugg.org/meetings/Anti_harassment_guidelines. <br> pdf). |
| International Union of History <br> and Philosophy of Science and <br> Technology | Member of Gender Gap in Science project. (https://gender-gap- <br> in-science.org), Published report. (https://gendergapinscience. <br> files.wordpress.com/2020/o2/final_report_20200204-1.pdf). |
| International Union of Pure and <br> Applied Chemistry | Member of Gender Gap in Science project. (https://gender-gap- <br> in-science.org), Published report. (https://gendergapinscience. <br> ifles.wordpress.com/2020/o2/final_report_20200204-1.pdf). <br> file <br> Also publications by individuals. |
| International Union of Pure and <br> Applied Physics | Member of Gender Gap in Science project. (https://gender-gap- <br> in-science.org), Published report. (https://gendergapinscience. <br> files.wordpress.com/2020/o2/final_report_20200204-1.pdf). |
| International Union of Radio Science | Working group produces annual reports on activities. In 2011, <br> created position of Vice President with gender champion duties. |
| Column on 'Women in Radio Science' in quarterly magazine <br> 'The Radio Science Bulletin'. (http://www.ursi.org/publications. <br> php\#tab-section3). |  |
| International Water Association | "The Untapped Resource: Gender and Diversity in the Water <br> Workforce". (https://iwa-network.org/publications/untapped- <br> resource-gender-diversity-water-workforce/). |
| Pacific Science Association | Special issue of the "Pacific Science Information Bulletin", as <br> well as other organization publications and journal papers. |

## Appendix 20: Details of policies that address sexual harassment in the workplace

| Organization | Details |
| :--- | :--- |
| Association of Science and <br> Technology Centres | The purpose of the policy is to prohibit harassment of any employee <br> on the basis of sex or gender. Sexual harassment is defined broadly. <br> Also have a Conference Code of Conduct (https://www.astc.org/ <br> conferences-and-events/code-of-conduct/). |
| European Consortium for <br> Political Research | Part of the Human Resources and Health \& Safety Handbook for all <br> staff. Also have a Code of Conduct for all members/others interacting <br> with the organization. Clearly defined process for reporting breaches of <br> the Code and complaints. (https://ecpr.eu/ContentPage.aspx?ID=626). <br> (https://ecpr.eu/complaints/complaintsprocess). |
| International Institute for <br> Applied Systems Analysis | Code of Conduct for a Professional Working Environment. |
| International Mathematical <br> Union | Weierstrass Institute for Applied Analysis and Stochastics regulations, <br> as well as German regulations |
| International Political Science <br> Association | Follow sexual harassment policy of host organization, Concordia <br> University. (http://www.concordia.ca/content/dam/common/docs/ <br> policies/official-policies/PRVPA-3.pdf). |
| International Statistical <br> Institute | Part of staff regulations. |
| International Studies <br> Association | Code of Conduct. <br> (https://www.isanet.org/ISA/Governance/Policy-and-Procedures/ |
| International Union for the <br> Scientific Study of Population | Employee handbook. |
| International Union of Basic <br> and Clinical Pharmacology | Secretariat is in the USA and hence must have a policy that addresses <br> sexual harassment. |
| International Union of <br> Geodesy and Geophysics | Anti-harassment guidelines. <br> (http://www.iugg.org/meetings/Anti_harassment_guidelines.pdf). |
| International Union of <br> Immunological Societies | Part of secretariat's company policy. |
| International Union of Pure <br> and Applied Physics | Secretariat adopts the sexual harassment policy of the host institution. <br> Have a policy on sexual harassment related to conferences sponsored <br> by the union. |
| International Union of Radio <br> Science | Part of the employee relations policy. |
| Society for Social Studies of <br> Science | A general ethics document that indicates the organization does not <br> tolerate sexual harassment or other forms of harassment at our annual <br> meetings. |
| Society for the Advancement of <br> Science in Africa | Policy being developed. |

## Appendix 21: Current or past projects and activities/workshops with a specific gender focus

| Organization | Projects and activities/workshops |
| :---: | :---: |
| Association of Science and Technology Centres | IF/THEN IF/THEN ${ }^{\circledR}$ is a national initiative to advance women in STEM by empowering current innovators and inspiring the next generation of female pioneers. ASTC is working with IF/THEN ${ }^{\circledR}$ to increase representation of women in STEM fields, make positive representations of women available to informal STEM learning organizations, and inspire and engage young women to pursue STEM courses and careers. There are several resources and opportunities associated with the project that will help to increase the representation of women in science centres and museums: ASTC's IF/THEN® Gender Representation Toolkit helps science centres collect data on their visual representation of women and gender minorities in the images and videos in their museum content, including exhibits, websites, program materials, signage, and more. These data will be used to inform changes at individual museums and contribute to a field-wide report on the state of gender representation in science centres to identify areas of improvement and better determine the resources needed for growth. This toolkit will also prompt conversations between museum staff about gender equity through guided discussions and training sessions. IF/THEN ${ }^{\circledR}$ Grants are have been awarded to museums in order to advance a project that addresses gender equity in their museum. There will be two rounds of IF/THEN® grants awarding a total of $\$ 650,000$ to science centers and museums. ASTC is working with the National Girls Collaborative Project on the IF/THEN® Collection, a digital library of free photos and videos featuring inspiring women in STEM that museums and educators can use to increase their representation of women. <br> Girls RISENet was a partnership between the Patricia and Phillip Frost Museum of Science, the Association of Science-Technology Centres, and SECME, Inc. Girls RISEnet strengthened the professional capacity of informal science educators to engage and motivate minority girls in grades 6-12 to explore and pursue S\&T careers. The project addressed the national need to cultivate diversity in preparing the next generation of female scientists and engineers. Objectives included: Utilized the national network of science centres and museums to raise awareness and broaden access for girls underrepresented in STEM. Developed linkages between organizations with the common purpose of increasing the pipeline of minority female engineers. Facilitated translation of gender and diversity research into practice through a unified training program. Provided ongoing services, access to program materials, and tools to broaden the ability of science centres to provide relevant and engaging programming for girls. |
| International Arctic Science Committee | Current projects: Gender in Polar Research, Gender Equality in the Arctic. |
| International Commission for Optics | Women in Light Science, an exhibition that celebrates the scientific contribution of 12 women researchers who have contributed to fundamental discoveries in Optics and Photonics. http://e-ico.org/node/319 |
| International Council for Industrial and Applied Mathematics | Several workshops linked to the 'Gender Gap in Science' project, funded by ICSU. The ICIAM Olga Taussky-Todd Lectures in every one of our main congresses, every four years. |
| International Institute for Applied Systems Analysis | Since 2013, IIASA has been committed to addressing diversity issues and has made a number of changes including establishing a Committee on Cultural Diversity and Building a Positive Work Environment, introducing a Code of Conduct policy, addressing the gender pay gap, providing family benefits to all IIASA employees, and working towards a fair parental leave policy. |
| International Peace Research Association | Decolonised peace, engendered peace, human, gender and environmental security and peace. |


| Organization | Projects and activities/workshops |
| :---: | :---: |
| International Sociological Association | ISA Research Committee on Women in Society focusses on issues related to women and gender https://www.isa-sociology.org/en/research-networks/research-committees/rc32-women-gender-and-society. |
| International Statistical Institute | On May 12, 2020 launched the International Year on Women in Statistics and Data Science (launched at the 200th anniversary of Florence Nightingale) https://www. isi-web.org/index.php/florence-nightingale-working-group. |
| International Statistical Institute (ISI | Roundtable at General Conference - 'Gender, Inclusivity and the Good Profession' https://ecpr.eu/Events/Event/Content?ID=503\&EventID=123. We are also due to publish a symposium shortly in our professional journal European Political Science on gender bias in our academic journals, written as a result of analysis of data and peer review processes by the editorial teams of our EJPR, EPS and EPSR journals. |
| International Studies Association | See examples references gender and women at https://www.isanet.org/ Conferences/Archive/Workshop-Grants. |
| International Union for Pure and Applied Biophysics | Focused meetings to take place in 2021. |
| International Union for the Scientific Study of Population | See publications from committees. IUSSP has several scientific panels that address issues of gender and women's access to reproductive health services and abortion. |
| International Union of Biological Sciences | A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences - How to Measure It, How to Reduce It? |
| International Union of Geological Sciences | IGCP by UNESCO and IUGS. |
| International Union of History and Philosophy of Science and Technology | Symposia of the Commission on Women and Gender in Science, Technology and Medicine at our quadrennial congresses. |
| International Union of Immunological Societies | Multiple awards and workshops - https://iuis.org/committees/gec/. |
| International <br> Union of Pure and Applied Chemistry | 1. A Global Approach to the Gender Gap, IUPAC Women's Breakfast, 2. Awardees of the IUPAC Distinguished Women in Chemistry or Chemical Engineering, 3. 3. A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to Measure it, How to Reduce It? |
| International Union of Pure and Applied Physics | The IUPAP has been a very active participant of the Gender Gap in Science project, https://gender-gap-in-science.org/. It has not only been involved in the definition of the project (being its initial promoter), but its representatives were directly involved in the organization and realization of its main tasks, the Global Survey of Scientists that was responded to by about 32,000 people from over 150 countries in the world. The Working Group on Women in Physics of the IUPAP (wgwip.df.uba.ar) organizes the International Conference on Women in Physics (ICWIP) triennially (see, e.g. https://wp.csiro.au/icwip2020/) and supports the participation of female physicists at early stages of their careers in conferences, schools and related activities with travel grants. Reports on the activities can be found on the working group website, http://wgwip.df.uba.ar/, and in the IUPAP newsletters. |
| International Water Association | We try to have more gender balance in conferences and organize events with a gender focus. We have also just changed the steering committee rules such that from now on a balance of regions, gender and age needs to be respected. |


| Organization | Projects and activities/workshops |
| :--- | :--- |
| Society for Social <br> Studies of Science | A significant portion of research produced by members of the society is about <br> gender in science. |
| Society for the <br> Advancement of <br> Science in Africa | Women in Science Seminar. |
| World <br> Anthropological <br> Union/ <br> International <br> Union of <br> Anthropological <br> and Ethnological <br> Sciences | We have "IUAES Commission on Anthropology of Women" and "IUAES <br> Commission on Global Feminisms and Queer Politics." They hold panels etc. at <br> congresses. (https://www.waunet.org/iuaes/comm/list.phtml). |

## Appendix 22: Examples of gender-related activities conducted by national chapters (or equivalent)

| Organization | Examples |
| :---: | :---: |
| Association of Science and Technology Centres | Under the IF/THEN Initiative, 26 member museums across the USA have received grant funding to implement projects designed to increase representation of women and gender minorities in STEM. |
| European Consortium for Political Research | Standing Group on Gender and Politics. |
| International Commission for Optics | Women in Light Science exhibition that celebrates the scientific contribution of 12 women researchers who have contributed to fundamental discoveries in Optics and Photonics. (http://e-ico. org/node/319). |
| International Mathematical Union | World Meeting for Women in Mathematics. |
| International Union of Forest Research Organizations | Many activities. e.g. Forests in Women's Hands International Conference, (https://www.forstfrauen.at/en/konferenz-2021); Mentoring Women in Forestry, (https://bfw.ac.at/rz/bfwcms. web?dok=11114); Canadian Federal Investment in Women in Forestry, (https://www.canada.ca/en/status-women/ news/2018/11/new-federal-investment-will-help-boost-number-of-women-in-canadas-forestry-sector.html). |
| International Union of Immunological Societies | Women's Initiatives and female speaker databases and mentoring programmes in at least 20 member organizations. |
| International Union of Materials Research Societies | Many have policies on gender equity on conferences and meetings, as well as member Executive Committee and other boards. |
| International Union of Pure and Applied Physics | Working Group on Women in Physics has led to the organization of similar groups at country level. |
| Society for the Advancement of Science in Africa | Encouragement of high school level girls to aspire to STEM careers. |
| Sudanese National Academy of Sciences | Sudanese Women in Science; OWSD Sudan National Chapter. |
| World Anthropological Union/ International Union of Anthropological and Ethnological Sciences | Most of the 54 national associations are engaged in genderrelated activities. |

## Appendix 23: Examples of grants, fellowships or awards that organizations have specifically for women

| Organization | Examples |
| :---: | :---: |
| European Consortium for Political Research | Awarded via Standing Group on Gender and Politics. (https://ecpr.eu/ Prizes/PrizeDetails.aspx?PrizeID=9). |
| International Council for Industrial and Applied Mathematics | Olga Taussky-Todd Lectures in congresses held every four years. (http://www.iciam.org/iciam-olga-taussky-todd-lectures). |
| International Institute for Applied Systems Analysis | Women in Science Fund to provide financial support to women scientists at all career levels. (https://iiasa.ac.at/web/home/about/ giving/Women_in_Science_Fund.html) |
| International Mathematical Union | Grants administered by Committee for Women in Mathematics and Emmy Noether Lecture at the International Congress of Mathematicians. |
| International Peace Research Association | Senesh Fellowship for women from the Global South, Peace research projects. |
| International Studies Association | Susan S. Northcutt Award. (https://www.isanet.org/Programs/ Awards/Susan-Stoudinger-Northcutt). |
| International Union of Geodesy and Geophysics | Union sponsors scientific meetings. <br> (http://www.iugg.org/meetings/guidelines.php). |
| International Union of Immunological Societies | Prizes. (https://iuis.org/news/menarini-prize-for-outstanding-woman-immunologist/ - once every three years). (https://iuis.org/ news/announcement-of-a-new-travel-for-expertise-travel-grantprogram/ - every year, multiple awards). |
| International Union of Pure and Applied Chemistry | Distinguished Women in Chemistry or Chemical Engineering awards. |
| International Union of Pure and Applied Physics | Travel grants for early-career female physicists from developing countries at early stages of their career. (http://wgwip.df.uba.ar/). |
| International Water Association | Women in Water Award. (https://iwa-network.org/iwa-women-water-award/), every two years. |

## Appendix 24: Examples of committees, research boards or similar structures with a specific focus on women in science issues

| Organization | Examples |
| :---: | :---: |
| European Consortium for Political Research | Standing Group on Gender and Politics. |
| International Federation of Library Associations and Institutions | The Women, Information and Libraries Special Interest Group focuses both on services to female users, and to women within the library profession. |
| International Geographical Union | Commission on Gender and Geography. (https://igugender.wixsite.com/ igugender). |
| International Institute for Applied Systems Analysis | Women in Science Club. (https://iiasa.ac.at/web/home/about/alumni/WISC. html). |
| International Mathematical Union | Committee for Women in Mathematics. (https://www.mathunion.org/cwm). |
| International Peace Research Association | Gender and peace. |
| International Political Science Association | 2 Research Committees that focus on gender and diversity - Women and Politics in the Global South (https://www.ipsa.org/page/rco7-women-and-politics-global-south) and Gender Politics and Policy (https://www.ipsa.org/page/rc19-gender-politics-and-policy). |
| International Sociological Association | Research Committee on Women in Society. <br> (https://www.isa-sociology.org/en/research-networks/research-committees/ rc32-women-gender-and-society). |
| International Statistical Institute | Committee on Women in Statistics. (https://cw-isi.org/). |
| International Studies Association | Committee on the Status of Women. (https://www.isanet.org/ISA/Governance/ Committees/Status-of-Women). |
| International Union of Biological Sciences | Working group on gender gap. |
| International Union of Crystallography | Women in Crystallography. (https://ecm2019.org/programme/microsymposia/ general-interest/gi-ms47-women-in-crystallography/). |
| International Union of Forest Research Organizations | Research Group "Gender and Forestry" ;Working Party "Gender research in Forestry" (https://www.iufro.org/science/divisions/ division-6/60000/60800/60801/); Working Party "Gender, Education and Forestry" (https://www.iufro.org/science/divisions/ division-6/60000/60800/60802/); <br> Task Force "Gender Equality in Forestry" (https://www.iufro.org/science/task-forces/gender-equality-in-forestry/members/). |
| International Union of History and Philosophy of Science and Technology | Commission on Women and Gender in Science, Technology and Medicine. (http://dhstweb.org/structure/historical-commissions). |
| International Union of Immunological Societies | Gender Equality Committee. (https://iuis.org/committees/gec/). |
| International Union of Pure and Applied Physics | Working Group on Women in Physics. |
| Pacific Science Association | Working Group on Human Resources for the Future. |


| Organization | Examples |
| :--- | :--- |
| Society for the <br> Advancement of <br> Science in Africa | Committee on Women in Science. |
| World <br> Anthropological <br> Union/International <br> Union of <br> Anthropological and <br> Ethnological Sciences | Commission on Anthropology of Women and Commission on Global Feminisms <br> and Queer Politics. These Commissions do not directly address "women in <br> science" but broadly cover gender-related issues. |

## Appendix 25: Examples of initiatives and/or advocacy/networking activities aimed at the promotion of gender equality in science

| Organization | Examples |
| :---: | :---: |
| European Consortium for Political Research | Gender Equity Plan. (https://ecpr.eu/Filestore/CustomContent/ Membership/Gender\%20Equality\%20Plan_2018.pdf). |
| International Arctic Science Committee | Fellowship Programme, Gender in Polar Research project (https://www.ethnologie.uni-hamburg.de/forschung/aktuelle-forschungsprojekte/gender-in-the-arctic-research-network.html). |
| International Commission for Optics | Women in Light Science. (http://e-ico.org/node/319). |
| International Council for Industrial and Applied Mathematics | Participated in Gender Gap in Science project. (https://gender-gap-in-science.org/). Set up a Standing Committee on Gender Equality in Science. |
| International Institute for Applied Systems Analysis | Women in Science Club mentoring programme. https://iiasa.ac.at/web/ home/about/alumni/WISC_mentoring_program.html |
| International Mathematical Union | Committee for Women in Mathematics. (https://www.mathunion.org/ cwm). |
| International Political Science Association | Published 3 Gender and Diversity Monitoring Reports since 2011. (https://www.ipsa.org/publications/ipsa-gender-diversity-monitoring-report). <br> Appointed a Special Representative for Gender and Diversity for 20182020 and adopted first Gender and Diversity Action Plan. Aim is to make every aspect of association more inclusive and diverse. Over past 20 years, women's representation in activities and committees increased from $20.3 \%$ to $37.5 \%$. IPSA Gender and Diversity Monitoring Report: |
| International Statistical Institute | International Year on Women in Statistics and Data Science (launched at the 200th anniversary of Florence Nightingale). (https://www.isi-web.org/index.php/florence-nightingale-working-group). |
| International Union of Biological Sciences | A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences - How to Measure It, How to Reduce It?" (https:// gender-gap-in-science.org). |
| International Union of Crystallography | Conference support given only given to organizations that adhere to the gender equality statement. |
| International Union of Forest Research Organizations | Forests in Women's Hands International Conference, (https://www. forstfrauen.at/en/konferenz-2021). |
| International Union of Geodesy and Geophysics | Anti-Harassment Guidelines. <br> (http://www.iugg.org/meetings/Anti harassment guidelines.pdf). |
| International Union of Immunological Societies | Gender Equality Committee. (https://iuis.org/committees/gec/). |
| International Union of Pure and Applied Chemistry | 1. 2019 GWB https://iupac.org/100/global-breakfast/ "Empowering Women in Chemistry: A Global Networking Event" <br> 2. 2020 GWB https://iupac.org/global-womens-breakfast/ "Building Bonds to Create Leaders" <br> 3. ISC's project "A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to measure it? How to Reduce it" |


| Organization | Examples |
| :--- | :--- |
| International Union of Pure <br> and Applied Physics | Besides the network of women physicists referred to above, the IUPAP <br> has been an active participant of the Gender Gap in Science Project. <br> This was an international and interdisciplinary project whose aim <br> was to collect data and analyze the gender gap in STEM to generate <br> proposals to reduce it that could be used by "players" at various levels, <br> from individuals to institutions. The project was mostly funded by the <br> International science Council through the end of 2019. Because most <br> unions think that it is important to continue the work initiated with <br> this project, we are now discussing the signing of a memorandum of <br> agreement among the unions to guarantee the continuation of this <br> excellent joint effort. |
| Society for Social Studies of <br> Science | Some research of society members focuses gender in science. We also <br> are affiliated with and have provided some support to a feminist journal <br> on science and technology. |
| Society for the Advancement <br> of Science in Africa | Women in Science seminars. |
| Sudanese National Academy of <br> Sciences | SNAS supports Sudanese Women in Science group |

## Appendix 26: Examples of how disciplinary organizations address gender/diversity issues

| Organization | Examples |
| :--- | :--- |
| International Arctic Science <br> Committee | International Arctic Science Committee: Gender Statistics. <br> (https://www.dropbox.com/s/ovk44c8ei34omuv/A8\%20-\%20 |
| IASC\%20Gender\%20Statistics.pdf?dl=0). |  |

## Appendix 27: Additional comments provided about the role of women or gender-related issues in the disciplinary organization's activities

| Organization | Examples |
| :---: | :---: |
| International Council on Laboratory Animal Science | Never made any difference between genders. Always treated women equally. |
| International Institute for Applied Systems Analysis | In 2019 appointed female Deputy Director General and female Chief Operations Officer. Women occupy 2 out of 3 executive positions. |
| International Mathematical Union | Much activity to address gender equality in national member societies. |
| International Peace Research Association | Focus on the use of women's bodies during wars and armed conflicts (sexual and gender violence). |
| International Union for the Scientific Study of Population | Strong focus on gender issues and role of women in society in 1990 s and early 2000, but by mid-2005 gender issues had become mainstreamed. Specific programmes focusing on women and gender were not necessary but should be included as part of all members' research. |
| International Union of Forest Research Organizations | Sponsor participation of scientists from economically least advantaged countries through a Scientist's Assistance Program (SAP), which sponsors minimum of $50 \%$ (sometimes more) women to participate in scientific meetings/conferences. |
| International Union of Materials Research Societies | The member adhering bodies, rather than the Board, have the responsibility for gender equity issues. Intend to raise issue at next executive committee and general annual meeting to propose a more pro-active role by union. |
| International Union of Pure and Applied Chemistry | Wide range of attitudes and activity on gender issues across countries and cultures. Solutions and initiatives need to consider regional context. |
| International Union of Pure and Applied Physics | Been very active trying to increase the participation of women in physics. However, many times it is the community that needs to change for these policies to have an effect. With regard to prizes, women are more likely to receive young scientist awards than most prestigious ones (related to career achievements). |
| International Water Association | Decision-making body, the management team is maledominated with only 1 woman and 7 men . Women employees are poorly paid. |
| World Anthropological Union/ International Union of Anthropological and Ethnological Sciences | All individuals, males or females, are equal. Do not see any need to specifically favour women. The majority of executive board members are women (https://www.waunet.org/iuaes/ about/leadership), as well as the majority of our members. |

GenderlnSITE
Gender in science, innovation, technology and engineering


[^0]:    i The survey report is available at https://www.interacademies.org/publication/women-science-inclusion-and-participation-academies-science. The main findings have also been published as an open access article, downloadable at https://www.sajs.co.za/article/view/3997 (Ngila, D., Boshoff, N., Henry, F., Diab, R., Malcom, S. \& Thomson, J. 2017. Women's representation in national science academies: An unsettling narrative. South African Journal of Science, 113, 1-7).
    ii https://genderinsite.net

[^1]:    iii The term "ISC disciplinary organization" is a generic term used for both disciplinary unions and associations that are members of the ISC.
    iv https://www.interacademies.org/index.php/network/member-academies
    v https://council.science/members/online-directory/

[^2]:    viii The total is 47 and not 48 because the Academy of Scientific Research and Technology in Egypt, although it participated in the 2015 survey, did not complete this particular question in that survey.

[^3]:    x The total is 46 and not 48 because the Nigerian Academy of Science and the National Academy of Sciences of Peru, although both participated in the 2015 survey, did not complete this particular question in that survey.

[^4]:    xi The Academia Sinica in Taiwan, China, did not answer this question. For all analyses in the rest of Section 4 , where the total number of academies equals 84 and not 85 , it is because of a missing response by this academy.

[^5]:    xii doi:10.1126/science.abj7157

[^6]:    xiii Pathways to Success: bringing a gender lens to the scientific leadership of global challenges ( p 42 )
    xiv It is noted that the GRC published a report titled 'Gender-Disaggregated Data at the Participating Organizations of the Global Research Council: Results of a global survey' in 2021. (https://www.globalresearchcouncil.org/fileadmin//documents/GRC Publications/Survey Report GRC Gender-Disaggregated_Data.pdf).

