



# GLOBAL YOUNG ACADEMY

Technological Innovations for Discovering Solutions to  
the World's Greatest Current Challenges

## 13th International Conference of Young Scientists

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June 2023  
Kigali Rwanda

## A word from the GYA Co-Chairs

The 2023 Annual General Meeting (AGM) and International Conference of Young Scientists in Kigali, Rwanda, was the first in-person AGM since the COVID-19 pandemic. Following three years of online AGMs, GYA members could again meet to rekindle the resilient GYA spirit.

This successful event was put together with tremendous support from the Rwanda Young Academy of Sciences as a local host. Nearly 100 GYA members and alumni made their way to this welcoming green country in Central Africa, joining with over 50 guests that included local early-career researchers, policy makers and senior representatives of the international science management and policy community.

The topic of the International Conference of Young Scientists, “Technological Innovations for Discovering Solutions to the World’s Greatest Current Challenges”, encouraged lively discussions on the potentials and challenges of new technologies for development, and the role that young scientists have on local and international stages. As part of a global organization, GYA members are acutely aware of the need for debates that are inclusive of multiple regional, disciplinary and intergenerational perspectives.

We celebrated being able to welcome 41 new GYA members, mostly in person in a festive inauguration ceremony. This also means saying farewell to an equal number of new GYA alumni, although 20 of the newest alumni opted to take part in the GYA’s Alumni Plus Programme, giving them a one-year extension on many GYA opportunities,

to compensate for lost time during the pandemic.

With the momentum from this meeting, the incoming Executive Committee will focus our efforts on the following areas for the GYA in 2023/24: diversifying funding, strengthening scientific excellence, and nurturing partnerships.

The Executive Committee will work towards actively seeking diverse sources of funding, including government grants, private foundations, corporate sponsorships, and individual donors. By diversifying funding streams, we aim to reduce financial vulnerability and ensure long-term sustainability for the GYA. Additionally, by partnering with other organisations that share similar goals and project interests, we can leverage resources effectively.

Efforts to strengthen scientific excellence will be made in the form of continued reform of the Membership Selection Committee procedures and renewed work to increase opportunities for GYA members to represent young scientists in international contexts. Finally, we intend to work strategically with existing partner organisations, to amplify the voice of early-career researchers, and facilitate the sharing of knowledge and best practices worldwide.

In closing, this AGM and conference marked a pivotal moment for the GYA, and we are excited to embark on these initiatives to further our mission and impact in the coming year. Thank you for your continued support and engagement in our global community.

Priscilla Kolibea Mante  
Kwame Nkrumah University of  
Science and Technology, Ghana

Felix Moronta Barrios  
International Centre for Genetic  
Engineering and Biotechnology,  
Italy

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## Opening Ceremony of the GYA Annual General Meeting and International Conference of Young Scientists “Technological Innovations for Discovering Solutions to the World’s Greatest Challenges”

### **Report by Pradeep Kumar**

Global Young Academy (GYA) Co-Chairs [Priscilla Kolibea Mante](#) (Kwame Nkrumah University of Science and Technology, Ghana) and [Prosper Ngabonziza](#) (University of Louisiana, USA) welcomed esteemed delegates from over 54 countries to green Kigali, and they acknowledged and appreciated the role played by the Rwandan Young Academy of Science (RYAS) in organizing the event. Priscilla introduced the conference theme “Technological innovations for discovering solutions to the world’s greatest current challenges”, inviting a celebration of the positive impact of technological innovations on the community. She highlighted the resilience and courage shown by the early career researchers over the last three years and the power of coming together as a community. The Co-Chairs inspired delegates to participate in the AGM and Conference with open hearts and open minds, and provided a brief overview of the GYA including engagement with National (Young) Academies, inclusive leadership efforts, collaboration with ISC and IAP, and the GYA’s role in promoting science for society.

Co-Chair of the Rwanda Young Academy of Sciences (RYAS), [Eva Ujeneza](#) introduced the aim and mission of the RYAS, to foster collaborations between the members of the academy as well with industry, policy makers, and stakeholders focusing

on new research and innovation. Eva urged the delegates to forge strong networks and to foster a constructive collective environment.

Following these introductions, the meeting was officially opened with welcoming words from the German Ambassador to Rwanda, [Thomas Kurz](#), and Rwandan Minister of Education, [Valentine Uwamariya](#). Thomas Kurz mentioned the role being played by the GYA in internationalization of the scientific endeavour, advancing scientific freedom worldwide, and strengthening the science system between low- and middle-income and high-income countries. Valentine Uwamariya emphasised that new technologies offer enormous potential for development, but that technology alone will not solve all problems. In Rwanda, collaboration and knowledge sharing are essential to advancing scientific research and innovation, and this International Conference of Young Scientists provides a model platform for interdisciplinary dialogue and exchange of ideas. Her remark “investing in education is investing in the future of our nation and the world” garnered appreciation and applause.

During the Opening Ceremony, [41 new GYA members were inaugurated](#), and introduced themselves with inspiring 6-word statements, including mentions of “breaking inequality barriers”, “collaboration, training, and innovations for uplifting society”, “analyse data, prevent disaster”, “work life balance”, and “environmental changemakers”.





## Keynote speech - “In search of an influential research paper of outstanding scientific importance” Magdalena Skipper, Editor in Chief, Nature

### *Report by Mareli Claassens*

The keynote speech by [Magdalena Skipper](#), Editor in Chief of Nature, opened with a short video clip on the history of Nature, from 1869 onwards until today, using interesting visual techniques to share every article published in Nature as a node, showing these articles' connections to every other published paper. The video showcased the “ever-growing web of collaboration and discovery which is science.” Although Nature originally focused only on fundamental science and discovery, e.g., the discovery of the Higgs Boson and the Human Genome Project, its focus has moved to be more inclusive of applied sciences, for instance the recent publication of “the effects of cash transfers on adult and childhood mortality in low- and middle-income countries.”

Magdalena Skipper highlighted different aspects of influential papers by example, mentioning papers from diverse disciplines and domains which were influential according to their editors for different reasons. She highlighted the way in which policy and impact are becoming more important for a publication like Nature. One paper she used as an example covered the destruction of the ozone layer and the subsequent Montreal protocol. Thirty years later, an evaluation of this paper and the

policies which followed was published, again in Nature, showing the restoration of the ozone layer. Other important aspects which she highlighted included social and economic justice; i.e., how to ensure that all peoples and communities are included in scientific research, which she termed the “co-production of research”. Even those not formally trained in science need to have a say somewhere during the design and implementation stage, to ensure that contextuality and cultural intelligence are taken into account.

Nature also specifically focuses on ensuring that “helicopter research and ethics dumping” are addressed, for instance in a recent paper around Covid-19 vaccine hesitancy and acceptance where the editors requested the original authors to reshuffle the balance between authors and those acknowledged, ensuring more representation from low- and middle-income countries. She concluded by stressing the importance of the voice of early-career scientists and young academics, which the world should listen to. Her final words to the audience were that we should remember: “influential papers come in all shapes, sizes and forms.”

A lively discussion ensued with early-career researcher participants contributing their perspectives on publishing and the publishing process from diverse fields and world regions.



## Plenary Panel I - Vaccine production in low- and middle-income countries

### Report by Mareli Claassens

The session on vaccine production in low- and middle-income countries was moderated by GYA members [Luciana Balboa](#) (CONICET, Argentina) and [Shymaa Enany](#) (Suez Canal University, Egypt). Luciana introduced the topic by explaining to the audience the traditional production pathway of vaccine development. She outlined the significant barriers that exist to produce vaccines in LMICs: e.g., cost, the failure rate of new vaccine candidates, expertise, and the profitability of vaccines in comparison to drugs.

In a video message from [Tedros Gabreyesus](#) (Director General, World Health Organisation), after greeting the Conference delegates in Kigali, Rwanda, he mentioned the discrepancies in vaccine access during the Covid-19 pandemic. Unequal access is one of the reasons the World Health Organization (WHO) is focusing on enhancing m-RNA knowledge transfer and has succeeded in establishing vaccine knowledge hubs in fifteen African countries thus far., including the Bio-N-Tech hub in Rwanda. In addition, m-RNA vaccine technology is transferrable to other infectious diseases like tuberculosis and malaria, offering great potential for further development LMICs.

[Agnes Binagwaho](#) (Vice-Chancellor Emerita of Global Health Equity University), focused on the equitability and effectiveness of the production and distribution of vaccines. When boys and girls

are vaccinated in an equitable way, the outcomes are similarly positive. Trust in vaccines, and in science, depends on the communities' trust in health systems and in their leaders. Leaders should be held accountable for vaccine hesitancy, especially if they are promoting non-vaccination. She said, "Nobody is safe until everybody is safe", highlighting the need for global responsibility to ensure that penalty-based laws could be enforced to ensure that opportunities which should be equitably distributed are not dominated by high-income countries.

[Noella Bigirimana](#) (Rwanda Biomedical Centre) opened with the statement, "The time is now to talk about production [of vaccines] in LMICs", citing the example of Bio-N-Tech in Rwanda. She focused on the way forward, building the conversation around three pillars of development. First, the regulation of medical products, including vaccines, therapeutics, and diagnostics; second, workforce development; and third, infrastructure development.

GYA member [Goran Bandov](#) (University of Zagreb, Croatia) focused on the geopolitical context of vaccine production and distribution, noting that the terms "vaccine nationalism" and "vaccine diplomacy" were adopted during the COVID-19 pandemic. The world saw a lack of solidarity, especially towards LMICs. Our biggest challenge therefore, in moving forward as a global community, would be to build capacity and solidarity in an equitable and fair manner.



# "Technological Innovations for Discovering Solutions to the World's Greatest Current Challenges"

## 13<sup>th</sup> International Conference of Young Scientists

6-8 June 2023 in Kigali, Rwanda



## Plenary Panel II - Technological innovations for solving global challenges: The role of young academics

### Report by Alma Hernández Mondragón

This panel focused on the role of young academics in driving sustainable technological applications to address global challenges. GYA member [Roula Inglesi-Lotz](#) (University of Pretoria, South Africa) and GYA alumnus [Lahcen El Youssfi](#) (Ibno Tofail University, Morocco), used interactive media to moderate an engaging session with numerous representatives from international senior and young academy contexts.

The session highlighted the significance of technology in both causing and solving global issues such as climate change, public health, and biodiversity loss. These key thoughts from panel speakers were collected before the session, projected for the audience and discussed in a lively Q&A with panellists and audience:

[Romain Murenzi](#) (Executive Director, The World Academy of Science (TWAS)): "Young scientists are crucial for economic growth and addressing challenges like access to water. Innovation comes from young scientists, and TWAS supports the young affiliates network."

[Jackie Kado](#) (Executive Director, Network of African Science Academies (NASAC)): "Science should go beyond obstacles and build trust through relevant activities. Collaboration with other disciplines is necessary to provide global solutions."

[Masresha Fetene](#) (Co-Chair, InterAcademy Partnership (IAP)): "Collaborations are essential for innovation, and young academics provide a voice for early career researchers. They bridge academia, policymakers, and industry to promote sustainable technological applications."

[Farai Kapfudzaruwa](#) (Research and Strategic Partnerships, Future Africa): "Technology and artificial

intelligence are expected to tackle challenges. Data and open science issues need resolution, and transdisciplinary collaborations bring new perspectives."

[Priscilla Kolibea Mante](#) (GYA Co-Chair; KNUST Ghana): "Young academics provide tools for young scientists, advocate evidence-based knowledge, and collaborate with academia, industry, and policymakers. Their aim is to achieve tangible societal benefits."

[Eva Liliane Ujeneza](#) (Rwanda Young Academy of Sciences Co-Chair): "Young academics embrace new challenges, build relations with stakeholders, and develop new technologies to create positive change."

[Chandra Shrekhar Sharma](#) (Indian Young Academy of Science Co-Chair): "Young academics are dynamic, open to collaboration, and address challenges like water through multidisciplinary approaches. Supporting technological innovation, especially in entrepreneurship, is crucial."

Speakers agreed on the necessity to create bridges between scientists and decision-makers. They emphasised the importance of fostering strong connections and effective communication channels between the scientific community and policymakers, to ensure evidence-based decision-making and the implementation of innovative solutions to global challenges. Young Academies can play a role in driving these connections between science and society to work towards a better future. They also have a role to play in using new technologies, such as AI, for social benefits. Early-career researchers represent an important link between generations to encourage the ethical use of AI and other emerging technologies..



## Plenary Panel III - A global perspective towards technological innovations: Think globally but tackle local challenges?

### Report by Jude Kimengsi

In today's interconnected world, it is especially difficult to isolate local challenges from global challenges, yet existing interlinkages are not fully appreciated even in scientific and public circles. Addressing global challenges requires that at multiple scales, interventions should deal with the interconnectedness of the earth's subsystems as well as human behaviour, societal and cultural conditions. This panel addressed questions related to key global and local challenges, and how technology and innovation can support solutions starting at the local level, but with a global view. The discussion was moderated by GYA members [Natalia Kurcikova](#) (University of Stavanger, Norway) and [Jude Kimengsi](#) (The University of Bamenda, Cameroon).

GYA member [Neil Guerrero Gonzales](#) (Universidad Nacional de Colombia) emphasised the growing interest to valorise locally-designed technologies. Drawing from the Columbian case, he explained how local knowledge and technology increasingly gains acceptance as it is more compatible with the ideals of sustainable development. At the same time, international commitments such as the SDGs and other regional arrangements provide a useful framework to reflect on how to address global challenges in a more holistic manner.

Minister of ICT and Innovation in Rwanda, [Paula Ingabire](#), focused on the need to leverage technology by enhancing its market potentials and value.

In the case of Rwanda, while there is increasing interest to upscale technology, market and feasibility surveys and opportunities to extend technology bundles beyond single packages represent a useful avenue for addressing local challenges, while also contributing to global market systems (trade). Scientific knowledge which identifies mal-adapted technologies is required at all scales to inform policy orientation with respect to which technologies should be considered by societies.

The next speaker, [Wilfred Ndifon](#), represented the African Institute for Mathematical Sciences (AIMS). His intervention highlighted the pitfalls of technological advancement. Technology is blamed for some of the mounting global crises today, and there are limits to how technology can address interconnected challenges linked to sustainable development. Therefore, tailor-made technological applications are needed, as they demonstrate potentials to address key global challenges linked to climate change, food insecurity and trafficking. AIMS does crucial work to promote education to contribute to the technological knowledge economy.

From the education sector in Rwanda, Vice Chancellor of Rwanda Polytechnic, [Sylvie Mucyo](#) explained that technological uptake requires targeted advocacy to ensure that it is fully mainstreamed in societies. Also, local partnerships as well as South-South and North South partnerships which lead to win-win arrangements can foster mutual learning and enhance technology uptake.





## Plenary Panel IV - A global perspective towards technological innovations: Engaging youth for addressing challenges of humanity

**Report by Devina Lobine**

Since the turn of the century, technological progress has been a key driver of improvements in incomes and standard of living. The innovative potential of youth, combined with the power of technology, is already proving to be crucial in achieving the UN Sustainable Development Goals. Today, young people are actively contributing to the creation of new jobs, economic empowerment of vulnerable groups, the promotion of better health systems, addressing climate change and access to inclusive and quality education. However, substantial numbers of youth in low-income countries lack digital or technology access; just one of the challenges to engaging the world's youth in science and technology.

The panel opened with an engaging recorded talk for the Conference by the Founder of African Institute for Mathematical Sciences, [Neil Geoffrey Turok](#). He emphasised the need to focus not only on technologies, but on development of people. He projected an optimistic view of youth in the Global South; with a growing young population and quickly evolving technological possibilities, there is much potential that needs to be explored and nurtured. In a discussion moderated by GYA members [Alma Cristal Hernández Mondragón](#) (National Polytechnic Institute, Mexico) and [Daisy Chioma Onyige](#) (University of Port Harcourt, Nigeria), speakers addressed questions such as how governments as well as civil societies can utilise technological inno-

vation to engage youth from both the Global South and the Global North.

Speakers [Flávia Ferreira Pires](#) (GYA Member; Federal University of Paraíba, Brazil), [Gaspard Twagirayezu](#) (Minister of State at the Ministry of Education, Rwanda) and Erik Hansalek (Head of Division Cooperation with Africa and the Middle East, German Federal Ministry of Education and Research) contributed examples of successful collaboration of youth with government programmes and with society to address challenges.

Erik Hansalek noted bilateral cooperations between the European Union and the Africa Union to establish collaborative research areas. The development of a mobile health app to provide vital health services to women in Uganda, under the German-African Innovation Incentive Award was also mentioned. Gaspard Twagirayezu spoke in favor of more programmes that support young scientists' international network, and provide incentives for them to return their home country and conduct research, bringing along the benefits of their international network. Flávia Ferreira Pires stated as one of the biggest challenges faced by youth in accessing technologies for sustainable development, lack of education and training. She demonstrated a project in Brazil that uses video technology in education.

In conclusion, this panel offered a fruitful exchange on how to create more educational and innovation opportunities for youth and for scientists in the Global South.



## Scientific Publishing: A global perspective from early-career researchers on open access dissemination of scientific discovery & data sharing

**Report by Chris Barrington Leigh**

The first part of this workshop focused on efforts around the world to promote more open publishing. [Luciana Balboa](#) (CONICET, Argentina, GYA member) explained how researchers in many countries must use publishing charges as one primary criterion in selecting a journal for their research. [Chandra Shekhar Sharma](#) (Indian Institute of Technology, GYA member) described the situation in India: Being a large country, the “one country, one subscription” model is a likely direction. This means that arrangements are negotiated with large publishers on behalf of all universities at once, paying one annual fee for unlimited open access publication rights. [Benjamin Stewart](#) (German Institute of Development and Sustainability) gave some context on how the struggle towards more universal open access lies within the broader “open science” agenda.

[Stephanie Jurburg](#) (German Centre for Environmental Research), co-lead of the GYA Open Science Working Group, moderated a discussion. The distinction between “Diamond” and “Gold” Open Access was made, with the former being entirely free for authors and readers. Luciana characterized Diamond as community-driven, academic-led, academic-owned publishing initiatives. Interestingly, Indonesia, Brazil, and the UK are homes to the most Diamond journals. Ben pointed out that researchers often lack knowledge about access to journal arrangements through their home institutions. The situation in Germany has adapted to the current reality: there is a one-country-one-subscription deal with two major publishers, in addition to research funding for journal fees. As a result, researchers are blissfully ignorant of the

problems around open publishing.

The second panel featured three remarkable innovators in open access publishing. [Magdalena Skipper](#), Editor-in-Chief of Nature, described the many steps the journal has taken to increase transparency and access, and to reform the review process. [Emily Chenette](#), Editor in Chief of PLOS One explained how PLOS has transformed the landscape by proving the feasibility of a publishing model which prioritizes rigour, ethics, and quality of the question and execution, rather than subjective assessments or heavy emphasis on the findings. PLOS has also addressed injustice associated with “helicopter research,” in which a foreign research team collects data from a local population and then leaves with a publication but doesn’t credit local contributions.

Next, [Roseline Dzekem Dine](#), as an Ambassador for eLife, recounted a newer approach. While both PLOS and eLife are non-profit, eLife changed its publishing model in 2023 and no longer accepts submissions, providing editor-initiated review of existing unpublished research papers.

GYA alumnus [Abel Polese](#) (Tallinn University, Estonia) moderated questions from the audience. It was pointed out that English as the de facto language of published research remains another significant barrier favouring those with existing advantages. Magdalena reported anecdotally that Nature’s move towards publishing peer review correspondence has improved the tone of reviewers. It was noteworthy that in all of these open access models, the publishers are working with high priority to improve equity and diversity in the process. In conclusion, this was a well-designed, lively, and important session, and a ripe field for further engagement by the GYA.





## Science Advice - Introductory Workshop and Advanced Session

**Report by Laura Zimmermann**

Effective strategies to address today's pressing issues increasingly require detailed technical knowledge and bringing together experts from multiple disciplines with the institutional, political and economic constraints that policymakers face. Scientific Policy Advice describes the processes, mechanisms and best practices of interactions between researchers and policymakers to facilitate informed policy-making. Young voices are typically underrepresented in science advice and their barriers to entry seem high.

The GYA [Science Advice Working Group](#) workshop convened science policy experts to discuss important underlying concepts and issues related to Scientific Policy Advice, in an introductory workshop moderated by GYA member [Laura Zimmermann](#) (University of Georgia, USA), and an advanced session, focused on the impact of the COVID-19 pandemic response on trust in science. INGSA Africa Executive Secretary [Christian Achemah](#) emphasised the need to humanize science advice with humility. He advised young scientists to be willing to have moral principles and even to say no, which will earn more respect in the long run. Communication, even explaining mistakes, is important: he advised to find a politician who is asking the questions you are interested in.

[David Mair](#) (Joint Research Center, Belgium) spoke remotely and among other ideas, he stressed that simply providing information doesn't lead to better science advice, sharing [10 Tips for Researchers: How to Achieve Impact on Policy](#). Also speaking remotely, [Yangyang Cheng](#) (Yale Law School, USA)

highlighted that science advice access and strategies importantly depend on a country's institutions and political system; it is important to become familiar with these in order to have an impact.

GYA member [Alma Hernández-Mondragón](#) (Center for Research and Advanced Studies, Mexico) argued for science-informed policy-making, not just science-based policy-making: it is important to be aware and transparent about additional factors that determine policy decisions. Science advice is more of an art than a science; there is a difference between an adviser and an advocate.

The advanced workshop focused on the COVID-19 pandemic and the impact of the pandemic response on trust in science. A presentation on "Science Advice in a time of crisis" by [Binyam Sisay Mendisu](#) (INGSA and UNESCO International Institute for Capacity Building in Africa, GYA alumni) pointed out that ad-hoc institutions created during the pandemic have typically not become institutionalised. Therefore, a space for more science advice has been created, but it is now important to try to formalise mechanisms and best practices. Collaboration within the scientific community across methodologies, disciplines and regions is key.

In a presentation "COVID-19 – a catalyst for trust or distrust in political science advice?", [Markus Prutsch](#) (European Parliament, Belgium) emphasised that establishing trust is one of the key components of science advice. COVID-19 has increased the visibility of science advice but also seen an increase in ideologization. There is a need to carefully navigate the effectivity of different media outlets.





## Annual General Meeting

The Annual General Meeting (AGM) of the GYA encompasses all sessions related to the functions of the Academy, from new member inauguration to working group meetings, elections and General Assembly meetings, convened to discuss all issues related to governance and development of the GYA.

In addition to working group working meetings, a GYA Activities Groups Poster Fair was held early in the week, showcasing existing activities for GYA members and guests. The Fair was accompanied by an additional poster exhibition portraying LGBTQ+ scholars, organised by the [GYA Rainbow Working Group](#).

At the Gala Dinner, another Working Group presented an exceptional output: the [Biodiversity of Survival via Biomedicine \(Bio2Bio\) Working Group](#) unveiled their project on protein structure and music, along with a new video on biodiversity preservation, which can be watched [here](#) (password: zedem).

During the General Assembly meetings, members heard reports from the Executive Committee and the GYA Administrative Office, with time for questions and discussion. Member-initiated ideas were also given room for presentation and debate among the diverse membership, such as discussions on the increasing importance of scientific freedom and about the possibility of implementing online voting for GYA elections in the future. Internal Minutes of these sessions with detailed summaries of all topics are available for GYA Members and Alumni.

Finally, member lightning talks featured GYA members' research. Speakers presented for 3-4 minutes in short, engaging presentations, providing insights into a wide variety of disciplines. These talks lay the foundations for future interdisciplinary cooperation with fellow members. All abstracts for the 40 Lightning Talks presented in 2023 can be viewed [here](#).

[GYA Members can visit the GYA Intranet download section to read the full AGM Minutes](#)



## Highlights from GYA Working Groups 2022/23

This AGM included a session highlighting the following special achievements by Working Groups in the past year:

- The [Science and Society project of the Trust in \(Young\) Scientists](#)
- An upcoming publication by the Interdisciplinary Grant project [Young Researchers and the COVID-19 Pandemic \(2021/22\)](#)
- The launch of the [GloSYS LAC qualitative study report: The Global State of Young Scientists \(GloSYS\)](#)
- The first Science Leadership Programme in [Latin America and the Caribbean: Science Leadership Latin America and the Caribbean](#)

- Introduction of the [Science Advice Resource Centre](#)
- Recent and ongoing joint projects of the [Scientific Excellence Working Group](#)

[Monika Kedra](#) (Institute of Oceanology, Polish Academy of Sciences) (as one of the 2022/23 EC portfolio co-leads for the GYA Activities Groups) moderated the session.

The Highlights Session showed the breadth and quality of GYA work, provided information about the groups to interested new members, and shared lessons learned and best practices. Based on these presentations, GYA members gathered ideas for future projects.

[Read more about Activities of the GYA](#)





## GYA members elect leadership for 2023/2024

The GYA elects 2 Co-Chairs and 9 further members of its Executive Committee (EC) each year at AGMs. In 2023, members elected [Felix Moronta-Barrios](#) (International Centre for Genetic Engineering and Biotechnology, Italy) and [Priscilla Kolibea Mante](#) (GYA Co-Chair; KNUST, Ghana) as new Co-Chairs.

Further EC members were as follows: [Yensi Flores Bueso](#) (University College Cork, Ireland; University of Washington in Seattle, United States); [Sri Fatmawati](#) (Institut Teknologi Sepuluh Nopember,

Indonesia); [Hussam Hussein](#) (Royal Scientific Society, Jordan); [Monika Kędra](#) (Institute of Oceanology Polish Academy of Sciences, Poland); [Devina Lobine](#) (Higher Education Commission, Mauritius); [Andreea Molnar](#) (Swinburne University of Technology, Australia); [Markus Prutsch](#) (European Parliament, Belgium); [Clarissa Rios Rojas](#) (University of Cambridge, United Kingdom); [Arya Shalini Subash](#) (Institute of Chemical Technology, India).

“ This is a tremendous responsibility, and I am grateful for the trust members have placed in me. I am committed to fostering an inclusive and collaborative environment where the voices and ideas of young researchers can flourish. Together, I am confident we can make a significant difference. ”

- Priscilla Kolibea Mante (GYA Co-Chair; KNUST, Ghana)



“ It is a tremendous responsibility to represent the diverse and innovative membership of the GYA, a community at the forefront of advancing scientific knowledge with significant societal impact. I fully recognize the challenge that lies ahead of me. Together with Priscilla and the EC, we can ensure that the perspectives and contributions of early-career scientists are recognised and integrated into decision-making processes that shape our global scientific landscape. ”

- Felix Moronta-Barrios (International Centre for Genetic Engineering and Biotechnology, Italy)





## Science Leadership Workshop for New GYA Members

Pre-AGM science leadership workshops have become an annual training opportunity for new members, and after three years of online workshops, this year's event took place in person, two days before the start of the 2023 Annual General Meeting. 25 newly selected GYA members met at [Carnegie Mellon University Kigali](#). The workshop was designed to give participants space to reflect together on how to be leaders in diverse contexts: in their research contexts, in the institutions and communities where they live and work, and in the GYA. During the workshop, participants discussed and practiced effective and creative problem solving, collective leadership models, and cultural dexterity. The workshop was facilitated by [Alisa Phuluk-](#)

[daree](#) (University of Pretoria, South Africa), [Anina Rich](#) (Macquarie University, Australia) and [Eshchar Mizrachi](#) (University of Pretoria, South Africa). Seasoned GYA members [Sandra Lopez Verges](#) (Gorgas Memorial Institute for Health Studies, Panama), [Goran Bando](#) (University of Zagreb, Croatia) and [Devina Lobine](#) (Higher Education Commission, Mauritius) participated in the new member workshop in the role of mentors, to guide and encourage new members and to answer questions about the GYA.

[Read more about the GYA science leadership model, and related programmes and workshops here.](#)

## Reflections from participants

“ It helped me to realize my potential and encouraged me to become leader in the future.

– [Hoan Ngo](#) (Seoul National University, South Korea)

”



“ I like how engaging the workshop is. It was also overall extremely well planned and thought out. And what I like the most are the facilitators of the workshop. They are brilliant and I will always remember them as the first faces I met on my GYA journey.

– [Hiba Baroud](#) (Vanderbilt University, United States)

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## GYA Working Groups - Bioinformatics workshop

### Report by Velia Siciliano

This pre-AGM workshop was held at the [Carnegie Mellon University Africa](#) in Kigali, and invited undergraduate and graduate students from Rwanda together with interested GYA members. Organised and moderated by GYA members [Velia Siciliano](#) (IIT, Italy), [Myrtani Pieri](#) (University of Nicosia, Cyprus) and [Yensi Flores Bueso](#) (University College Cork, Ireland), this capacity building event aimed to impart skills in synthetic biology and bioinformatic tools.

The workshop focused on synthetic biology, a bio-engineering discipline that enables scientists to create impactful tools for bioremediation, agriculture, and medicine, since this is shaping the endeavors to tackle global challenges. By introducing

young generations to synthetic biology and teaching them how to use bioinformatic tools that aid the design of engineered systems, the GYA [Bio-2Bio Working Group](#) aims to guide them to the first steps towards important future milestones.

The workshop was divided in two parts. The first part was a theoretical introduction to synthetic biology, answering simple questions like “what is synthetic biology”, “what is it useful for”, “what have been the most impactful applications”, “how do I engineer an intelligent system”. In the second part, students were taught how to use a free bio-informatic tool called “Benchling”. Benchling enables in silico analysis of DNA, RNA and proteins and allows to perform the assembly of the building blocks, nucleic acids, needed to carry out biological studies and to engineer organisms.

[Read more about the Bio2Bio working group](#)





## Science Education for Youth workshop

### **Report by Jane Yau**

This workshop, organised by [Jane Yau](#) (Leibniz Institute for Research and Information in Education, Germany) and [Siok Yee Chan](#) (Universiti Sains Malaysia) together with the [Science Education for Youth working group](#) aimed to address UN Sustainable Development Goal 4 – Quality Education for All – by discussing existing efforts to increase and improve education options around the world.

GYA members and local and regional early-career researchers were invited to participate in this afternoon meeting also held at the [Carnegie Mellon University Africa](#) in Kigali. The workshop successfully engaged both groups of participants, who

were introduced to the current problem of the lack of access to education worldwide. Examples from many initiatives from UNESCO, 60 Million Girls Foundation and other NGOs, were presented, which help to alleviate the problem. Participants brainstormed about further potential solutions to increase the capacity within organisations like the GYA to do more and have more impact. A participatory activity led to the production of stories of personal journeys about how early-career researchers had chosen their path and reached milestones in their specific field. A GYA booklet “Inspiring science topics for youth” is an upcoming output of this workshop.

[Read more about the Science Education for Youth Working Group](#)





## Women in Science

**Report by Eva Liliane Ujeneza**

Initiated by the [Rwanda Association for Women in Science and Engineering](#) (RAWISE), working together with the GYA [Women in Science Working Group](#), over 25 early-career researchers met and exchanged anecdotal incidences that some have encountered in their professional careers. Participants also acknowledged the similarity of many experiences and challenges of women in science in general. This collaborative meeting discussed mechanisms of support for women in science and the role of science diplomacy in designing gender-wise policies. The following recommendations resulted.

**Support for women in science - How to ensure women have adequate support in professional spaces?**

**Increased Accountability:** Participants highlighted the lack of adequate policies to support women in the workplace, particularly expectant mothers and mothers. Safety concerns were also identified as a common challenge, and while some institutions have basic policies in place, the implementation is inconsistent. Non-compliant parties often face minimal repercussions or exploit legal loopholes, which institutions are reluctant to address. Participants emphasised the need for mechanisms

to ensure compliance with laws and clear consequences for non-compliance. The responsibility of identifying non-compliant parties should lie with the institution, relieving victims of the burden of reporting and navigating complex legal processes.

**Awareness Training & Education:** Participants stressed the importance of providing comprehensive training to new hires and students regarding their rights, relevant laws, and proper channels for reporting infringements. Institutions should also ensure that the offices or officers receiving complaints are unbiased and impartial, avoiding any potential conflicts of interest with the accused party, particularly if they hold positions of power or seniority.

**Advocacy & Legal Representation:** Participants emphasised the need for proper representation and support for those reporting law-breaking parties and whistleblowers. Accessible and unconditional support should be available to all individuals who come forward. In the context of universities, instead of reporting issues to fellow staff or professors who may have connections to the accused, participants suggested empowering designated student offices responsible for gender and conflict resolution to provide support to victims and ensure a safe reporting environment.

[Read more about the GYA Women in Science Working Group](#)



## Pandemic Preparedness

### **Report by Amarjargal Dagvadorj**

The “Accelerating pandemic preparedness for climate change” workshop commenced with a series of insightful Pecha Kucha presentations by five distinguished GYA member scientists. [Sandra López-Vergès](#) (University of Panama), discussed medical products, vaccines, and technologies for climate change. [Chan Siok Yee](#) (Universiti Sains Malaysia) highlighted the crucial role of the health workforce in addressing climate change. [Andreea Molnar](#) (Swinburne University of Technology, Australia) centered her presentation on health information systems and their contribution to tackling climate change. [Shalini Arya](#) (Institute of Chemical Technology, India) emphasized the significance of health narratives pertaining to sustainable food practices amidst climate change.

Lastly, moderator [Amarjargal Dagvadorj](#) (Breathe Mongolia), who specializes in maternal and child health and health policy, shed light on health leadership and governance within the context of climate change.

The ensuing discussions yielded significant outcomes and plans. One noteworthy outcome was the recognition of the urgent need to develop a working group manual outlining best practices in the aforementioned areas. This manual will aim to foster resilience in the face of climate change. The workshop’s significance was further enhanced by the active participation of more than 20 GYA members and local scientists from Rwanda, facilitating a rich exchange of ideas and experiences. This diverse representation serves to strengthen the plans of the GYA Global Health Working Group by incorporating various perspectives and local insights.

[Read more about the Global Health Working Group](#)

## Partners and sponsors

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## About the Global Young Academy

The vision of the GYA is *science for all; science for the future*, and its mission is to give a voice to young scientists and researchers around the world. The GYA, founded in 2010, is an independent science academy of 200 outstanding early- to mid-career researchers from six continents who are selected from across disciplines based on their academic excellence and commitment to engage with society. GYA members serve five-year terms, and the GYA presently counts members and alumni from 101 countries. The GYA administrative Office is publicly funded and hosted at the German National Academy of Sciences Leopoldina. The wide array of GYA activities is supported by a range of international public and private funders.

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