

by Francesca M. Kerton

he IUPAC Global Women's Breakfast (GWB2022) was celebrated at over 400 events around the world on February 16, 2022. By all metrics, it was more successful than ever before but how are those measurements mirrored in individual experiences? During this International Year of Basic Sciences for Sustainable Development, the place of all people within science to make an impact will continue to be celebrated and we invite all scientists to join GWB2023 on February 14.

In February 2022, 407 'breakfasts' took place around the world in 78 different countries - including 12 first-time countries (Bangladesh, Burkina Faso, Cameroon, Honduras, Iceland, Kuwait, Mauritania, Moldova, Namibia, Poland, Trinidad and Tobago, and Uzbekistan). As with many events, we used a survey to ask organizers and attendees how the event has impacted their lives. After GWB2022, they responded that the breakfast "resulted in increased attention to diversity issues in my organization," "allowed for more open discussions on the need for more diversity in my organization," "led to new connections between groups," and "provided leadership opportunities for women." Even though surveys can provide a good overview of what everyone experiences at the GWB events, as a member of the project task group for GWB I wondered what the individual experiences were for attendees and organizers around the world. Therefore. I reached out to some participants to get their personal stories from behind the scenes. Thank you to all who took time out to answer my questions. On behalf of the Global Breakfast Project Task Group (www.iupac. org/project/2020-010-2-020), we hope that these stories will encourage everyone (women and men) to get involved with GWB2023.

Teamwork and leadership as a group of PhD student organizers

The person I reached out to first was a recent PhD graduate from my own group, Juliana Vidal, who is now a postdoctoral fellow at McGill University, Canada, She helped me to organize the GWB2019 event at my university and did so much of the work (e.g. prepared the poster, set up and ran our Twitter account @MUNGWB) that I realized perhaps I didn't need to run the GWB events myself in future years. I asked her what she got out of being a local GWB organizer? She said "Little did I know that organizing a theoretically simple event would open my mind to new perspectives while recognizing challenges and making me want to step up for them. The idea of organizing an event to connect the chemistry community in my university seemed interesting. And there would be food (cinnamon rolls!), what else could go wrong!? I left my supervisor's office thinking like this when she first introduced me to the IUPAC Global Women's Breakfast in 2019. Together with two of my friends, Stephanie Gallant and Silvana Pereira, and with the support of the faculty and staff

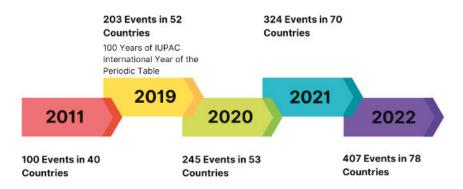


Figure 1. Timeline of GWB events around the world since 2011.

of our Chemistry Department, the organizational team for GWB2020 of Memorial University of Newfoundland was born (Figure 2).

While organizing the event, I started to think less and less about cinnamon rolls. There was a huge commotion from different universities in Canada and around the world to create connections, celebrate and highlight the achievement of women in STEM, and empower the next generations. During our first GWB, we had the chance to participate (live!) in the breakfasts organized by Saint Mary's University (Halifax, Canada), Cape Breton University (Sydney, Canada), and—believe it or not—Federal University of Minas Gerais (Brazil!). Besides meeting some amazing people, organizing the GWB also allowed me to put some of my leadership skills (that I did not know I had) in practice, and meet so many amazing women that keep inspiring me to be a better person! One example is

Deborah Nicoll-Griffith, who was the 2019 President of the Canadian Chemistry Society. Although our first interaction involved getting funds for our 2020 breakfast so we could have more cinnamon rolls in our GWB, a friendship was born, and today Deb and I see each other at least once a month (in person or virtually). She is a great mentor and sponsor as I continue my chemistry career. Steph, Silvana, and I also became huge friends, and I miss our GWB organizer meetings. The GWB also inspired me to keep acknowledging and talking about the issues around women in science, with the hopes and efforts that all human beings, one day, can also see and understand the beauty and power of diversity in STEM and in our society as a whole."

In 2022, as Juliana had graduated from my University, a new generation of graduate student scientists stepped forward and organized a very successful virtual event for GWB2022 including online discussions



Figure 2. Poster and event schedule from @MUNGWB 2019.

2022 IUPAC Global Women's Breakfast -Memorial University of Newfoundland

Empowering Diversity in Science























MUN GWB 2022

В Cussed

you're the only woman in a group project	someone out on mute in a WebEx meeting	described as "bossy"
Not been taken seriously because you were being "nice"	Attend this year's GWB!	Avoided eye contact with someone who made you feel uncomfortable
Unprofessional comments about your outfit	Thought Rosalind Franklin was robbed of a Nobel Prize	Spoken over at a conference/ meeting

Figure 3. Memorial University GWB2022 poster to promote the virtual breakfast and a women in STEM bingo card

and women in STEM bingo (Figure 3). By mentoring students in organizing GWB events from 2019-2022, I realized what an enormous impact the GWB had on scientists locally, so I continued my conversation with organizers around the world.

Staying in the Americas

Marilia Valli, a postdoctoral researcher in Medicinal Chemistry at Institute of Physics of Sao Carlos

- University of Sao Paulo, was kind enough to answer my questions. She told me, "I've been participating in the Global Women's Breakfast since the first edition (Figure 4). I think this is a topic of such importance not only for women, but for the progress of world science. And, every year I've seen the topic of women in science from a different angle, from choosing the right companions in life, how important personal support is for women, how maternity leaves affect mostly women, etc. I became professionally bolder, and personally more empathetic."

"Joining the Global Breakfast will bring you important information and statistics about gender imbalance in science. If we want to achieve equality, we need to know the real current status to plan for changes. I am the secretary of the International Younger Chemists Network (IYCN-IUPAC), which is also committed to gender balance with the Equity, Diversity and Inclusion committee. Also, as a member of the Younger Chemists of the Brazilian Chemical Society (JP-SBQ), I am happy to join GWB since its beginning. One of the objectives of these committees is to promote leadership and representation of young researchers of all genders and ethnicities in the scientific community of chemistry."

What was happening on the other side of the world?

Hooi Ling Lee (Universiti Sains Malaysia, Malaysia), another member of the GWB project task group, provided a Malaysian perspective on the events (Figure 5). She described how she had become involved with the GWB, "It started with the IUPAC Today Welcomes Tomorrow program in 2019 at the IUPAC World Chemistry Congress in Paris. I was one of the panellists during that time. After that encounter, Mary Garson and Laura McConnell invited me to be part of the team to organize GWB in 2020. I have never looked back since then. I enjoy working with such a passionate team. I have organized GWB for the third time and even plan for next year's GWB in 2023. Now, I am more involved in the organization of GWB by being part of the GWB Speed Networking working group." She also shared her thoughts on how GWB had impacted her life, "Before GWB, I am not such a strong advocate of gender equity and equality. I am just voicing my disagreement when gender equality is not practiced. Since the involvement of GWB, I believe we should always preach the concept as part of the awareness and education process. Professionally, I am reminding myself to be fair and equal to all genders in the workplace. At the same time, I hope to be a good





Figure 4. Photographs from in person (2020) and virtual (2021) GWB events organized at the University of Sao Paulo

role model for my female students to be bold and dare to pursue their passions, especially in STEM. This is my personal goal for myself."

As a member of the project task group behind the scenes of GWB, I asked if she had any advice for those interested in GWB2023: "The website of GWB has a lot of resources, especially for the first timers who wish to organize GWB events. There are coordinators' names on the website and do reach out to them. The registration is very simple, and it is as easy as ABC. To get more ideas, do look out for past archives pictures. The breakfast event can be done online, physically, or hybrid. Do reach out to GWB working group team members for more ideas. We are always happy to lend our helping hands!" She also reminded me "GWB is no longer about breakfast for women. Its purpose is to encourage gender equity among us. Men can take part and even become an organizer. Do encourage

your colleagues to participate in one of the largest global scientific gatherings, which stretches from New Zealand to Hawaii. In fact, in 2023, GWB will cover all sciences and not only chemistry-related organizations. It is going to be a breakthrough year!"

Staying in Asia, I was able to hear from three researchers at the Institute for Chemical Research (ICR) of Kyoto University about their experiences at GWB2022 (Figure 6). They were: Amano Patino Midori, an Assistant Professor (originally from Mexico), Lingling Xie, a Research Student (starting the PhD program, originally from Inner Mongolia) and Makino Momo, first year Masters Student (from Japan). They said "Our research area is solid-state chemistry and materials chemistry. In Japan, Mexico, and China, women tend to be a minority in this field. Therefore, we felt highly motivated to be part of an international event that celebrates our participation in science.









Figure 5. Promotional posters for GWB events in Malaysia 2020, 2021 and 2022, and a photograph of attendees at the in person GWB2020

"During the event, we had the chance to listen to the stories of two incredible science women (in industry and academia). They shared their journey and their role in the work they do every day. And in the context provided by this type of event, topics, questions, and concerns that are not so easily discussed in our everyday context were tackled. For example, we talked about the difficulty in producing papers during maternity leave or when women need to be at home for their families. Generally, the standards for judging scientific output are the same for women and men. However, the needs of different individuals in particular

circumstances are not considered. Moreover, many times it is thought that conditions of absolute equality will solve the problem, but specific needs are left aside. We learned that the latter is what is meant by equity and that the two concepts, equality and equity, need to be distinguished."

"Discussing between us, we agreed that the opportunity of getting to meet women who are doing what we dream of (both as speakers and attendees), and being surrounded by a supportive community also comprised of men who care, gave us a boost of confidence. And for sure, being able to broaden our

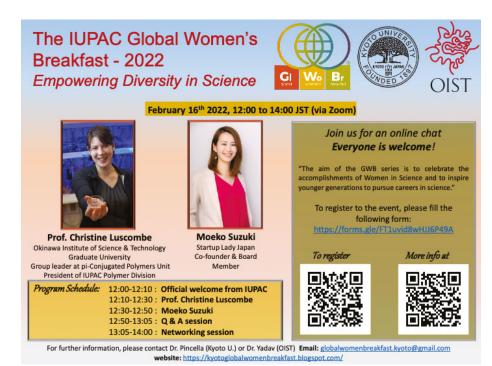


Figure 6. Promotional poster for GWB 2022 organized by Francesca Pincella (Kyoto University) and Preeti Yadav (OIST)

horizons and think together about the bigger picture, we felt involved and included."

Francesca Pincella (ICR), who was an organizer of this event led by Kyoto University, told me that the 2022 event was held online with 48 attendees. 42 participants joined from Japan and 6 from outside Japan. From a survey she conducted, the participants represented scientists across many disciplines: biochemistry, biology (several subfields), polymer science, marine science, physics (several subfields), solid state chemistry, organic chemistry, catalysis, bioinformatics, medicine, dentistry, nuclear engineering, sensors, organic electronic materials, spectroscopy, food science, etc. This meant a broad representation of different backgrounds was present and hopefully this reflects the possibility of equity and diversity in the scientific endeavor. Despite the online format, Francesca believed they did their best to truly connect with other participants from all over Japan, as well as the ones abroad.

And across to Europe

Italy has been home to some of the largest and most successful GWB events in the world (Figure 7). Therefore, I was happy to get feedback from Elisa Carignani on her experiences. I asked her why did you become involved in GWB? She said "I was selected as IUPAC Italian Young Observer in 2021, and Silvia Borsacchi, member of the Italian NAO committee and

now associate member of CHEMRAWN, talked to me about the GWB project. I found it a great idea from the first moment and, together with Alessandra Sanson, member of the Italian NAO committee and associate member of Div II (Inorganic Chemistry), we decided to organize a Breakfast. The timing was important since by starting to think about the GWB2022 event in July '21, we had the chance to invite the President of Italian National Research Council (CNR), the first woman to hold this office, and many eminent international chemists. We decided to focus our breakfast on discussing how to empower both gender and cultural diversity in chemical research, and we invited young women from different countries, working in chemical research, who have crossed Italy on their way, to share their experiences during the event."

In response to the question on how the GWB has impacted her life, she said "Organizing an IUPAC GWB gave me the opportunity to contact women and men with fascinating stories and top-level careers in Chemistry. During the organization stage I learned a lot from co-organizers. Sharing ideas was stimulating and I came to know best practices to manage contacts, to advertise the event and to lead a round table. I am sure that these skills will be very useful in my career. From a personal point of view this experience was inspiring. First, I thought about the importance of taking time to think about big themes like guaranteeing equal opportunities to all regardless of gender, culture, or social

background. This project gave me the opportunity to view things from a different perspective and listen to opinions of expert scientists and hear about real-life experiences."

She had the following words of advice and inspiration for those interested in getting involved in 2023. "I strongly encourage you to organize and participate in GWB. Don't be scared, any idea is good, and no big event is required. I know we always think that we don't have time. Our lives as chemists, researchers, professors... are very crowded and we must run. But the time dedicated to think and talk about inclusion. (hidden) gender stereotypes, cultural diversity, etc. is an investment. Not only does it enrich your person, but it will be extremely useful in many aspects of your professional life, for example working in or leading a multicultural research group." She added, "About the contents of breakfast, there is plenty of room for creativity. From my experience, storytelling is a great way to talk about general themes. Starting from a personal experience will enrich discussion and help to be focused on real life problems. The GWB event gave me inspiration and enthusiasm. Feeling connected with people all over the world is amazing!"

A Younger Chemist's Perspective from Africa

Bianca Davids is a PhD student at the University of the Witwatersrand, South Africa. She told me that "GWB has become an integral part of my postgraduate

journey and is an event that I look forward to each year. From attending my first GWB, it has become a passion of mine to advocate for women in science and to educate young chemists about the gender gap within the STEM community. The community of women involved in the GWB here in South Africa, and globally has inspired me to be more active in building a network of allies."

She mentioned that "When I started my PhD in 2019, I moved institutions and felt a bit lost as I didn't know anyone, and I was struggling to adjust to a new environment. The following month was the first GWB that I attended, and it was the first experience I had as a new postgraduate student where I felt welcomed and included. Since then, I have been involved in the organisation of GWB events (Figure 8) which have helped me grow both my personal and professional network with GWB being a stepping-stone for me to make lasting friendships that have encouraged me and helped me grow as a young chemist." She also said "I would encourage more young chemists to get involved in GWB. We as postgraduate students tend to get so wrapped up in our work that we don't build healthy relationships outside of the lab, especially relationships that want to see you succeed and grow. GWB is not just for those with an established career but should also focus on the issues that young female scientists face on their journey."



Figure 7. The thank you message from the italian NAO's virtual GWB2022 event.

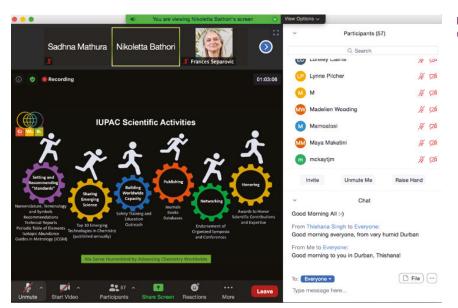


Figure 8. Screen shot of virtual GWB2021 event in South Africa.

Looking forward to GWB2023

From the personal feedback provided by chemists around the world regarding their GWB involvement, these events are clearly formative experiences, which increase everyone's awareness of gender equity and struggles scientists face as they pursue their careers. They help everyone to feel connected and motivated in their scientific lives. Through the United Nations Sustainable Development Goal 5 "Achieve gender equality and empower all women and girls", we all have a collective responsibility to ensure that all who want to work in science can do so safely, with equal pay and achieve leadership roles. As the current year is the International Year of Basic Sciences for Sustainable Development (IYBSSD), we are excited for GWB2023 on 14 February 2023 and we encourage everyone in science to get involved. GWB2023 will be a major global event for IYBSSD and will include all basic science areas (e.g., physics, math, biology, social sciences). The theme for 2023 is "Breaking Barriers in Science." We hope that our global map of breakfasts will be busier than ever as we aim to get a minimum of 1000 breakfasts happening in as many countries as possible next year. The global task group is here to help, we have developed a first-time organizers guide and mentoring opportunities alongside our inventory of photos and ideas available on the GWB website. Please join us in celebrating GWB2023 and women in STEM-save the date, 14 February 2023 and register your event online. Everyone is welcome!

Acknowledgements

IUPAC thanks Bayer Crop Science, the American Chemical Society, Chemistry Europe, the Royal Society of Chemistry, the New Zealand Institute of Chemistry, the Royal Australian Chemical Institute for their financial support of the 2022 GWB event series. We also thank:

Elisa Carignani (ICCOM-CNR, Italy) https://orcid.org/0000-0001-5848-9660,

Bianca Davids (University of the Witwatersrand, South Africa) https://orcid.org/0000-0001-9525-9151,

Hooi Ling Lee (Universiti Sains Malaysia, Malaysia) https://orcid.org/0000-0002-9637-0617, Francesca Pincella (Kyoto University, Japan) https://orcid.org/0000-0001-8171-4272,

Marilia Valli (Institute of Physics of Sao Carlos - University of Sao Paulo) https://orcid.org/0000-0003-1106-183X, Juliana Vidal (McGill University, Canada) https://orcid.org/0000-0001-8755-7220 for their feedback on GWB, and

Fatima Mustafa (Coordinator of IUPAC GWB Task Group) https://orcid.org/0000-0001-6754-7375.

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https://iupac.org/gwb