# Ten Years of Soapbox Science

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#### **Foreword**

The year 2020 marked an important milestone for Soapbox Science; it was the project's tenth year and a time to reflect on a decade of engaging with the public on the streets.

When we created Soapbox Science, we wanted to demonstrate that there was a need, and a niche, for public outreach platforms that challenge stereotypes about what sort of person a scientist is and what it means to be a scientist. We believed then, and still believe now, that the paucity of senior women and non-binary scientists in Science, Technology, Engineering, Mathematics and Medicine (STEMM), especially at top position levels, is unacceptable in a progressive 21st century world. Public engagement activities are often viewed as an unnecessary demand on a scientist's time. Yet these activities have the potential to make a difference in a scientist's career, by raising their profile and widening the reach of their work. Importantly, they can raise the visibility of under-represented groups, thereby providing accessible, visible role models for the next generations of scientists.

Since 2011, Soapbox Science has grown from one event in London to dozens of events worldwide, and has involved thousands of speakers, volunteers and organisers. With this report, we hope to showcase some of the key achievements of Soapbox Science by discussing its growth, reach, and impact on speakers and audiences.

Nothing would have been possible without the support and help of the communities we aim to serve. We would therefore like to extend our heartfelt thanks to all of the amazing people who make Soapbox Science possible. Firstly, to our Local Organising Teams for volunteering their time and working tirelessly to bring events and the spirit of Soapbox Science to their cities; to our speakers for coming up with engaging, fun and inspiring presentations and for having the guts to stand on boxes in crowded streets; to our volunteers for making sure events run smoothly and everyone has a good time; to our funders and supporters for making the events possible; and to our audiences for choosing to stop when they see us in their local streets and heckling our scientists with brilliant questions.

We finally would like to thank our Soapbox Science coordinator, Isla Watton, for her dedication to making this initiative a global success. Isla joined us in 2016, and has overseen the rapid expansion of Soapbox Science, developing processes and tools that enabled us to reach new continents and new audiences. Isla's artistic background proved invaluable for strengthening our communication strategy and science communication training approach. Soapbox Science could not have a better person in charge.

Nathalie & Seirian Soapbox Science Co-founders

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## **Introducing Soapbox Science**

An international public outreach platform, Soapbox Science showcases the work of women and non-binary scientists, by placing them on soapboxes in busy public spaces so that they can be heckled, questioned, and probed by the passers-by in a fun, informal setting. Established in 2011 by Co-Founders Dr Nathalie Pettorelli and Prof Seirian Sumner, the project has two aims: 1) to bring science to the streets, so that as many people as possible can meet and learn from their local researchers and 2) to showcase the work of women and non-binary people in science, to help address the lack of diversity in STEMM (Science, Technology, Engineering, Mathematics, Medicine), especially higher up the career ladder.

All Soapbox Science events happen in busy, free, public spaces. This is to ensure that the events reach a diverse audience, including an 'accidental' audience of people who had not intended to visit a science event that day. Examples are parks, seafronts, markets, festivals, shopping streets and shopping centres.

Events are organised by Local Organising Teams, with the help of the Soapbox Science Coordinator, based in London, who provides training and assistance. Organisers secure funding, a venue, materials and logistics, and advertise their speaker call. Twelve speakers are selected from a pool of applicants to represent a diversity of STEMM disciplines, seniorities (from PhD students to senior researchers and Professors) and backgrounds. They give short, interactive presentations that can be repeated as new audience members arrive. Our speakers do not use PowerPoint slides, but instead rely on fun props, audience participation and other ways that enable them to share their passion for science. Events last three hours and feature four speakers per hour,



Public spaces and parks



Markets and fairs



City centre shopping streets



Seafronts and beaches



**Festivals** 



Malls and shopping centres

Image, top left to bottom right: Soapbox Science London, Soapbox Science Gold Coast, Soapbox Science Arusha, Soapbox Science Cambridge, Soapbox Science Cardiff, Soapbox Science Lagos.

presenting simultaneously, with the audience free to move between them. This means that our speakers need to prepare flexible presentations that can be adapted to the audience in front of them. Questions from the audience might thus take them away from their prepared talks, but this is part of the fun of a Soapbox Science event.



Image: Soapbox Science London online 2020 speakers' videos

In 2020, due to the COVID-19 pandemic, many events had to move to an online format, reaching audiences on social media by asking speakers to create short videos about their work, and streaming live questions sessions. Local teams chose the platform that worked best for them, depending on where their core audience was. For example, many teams used Zoom to stream to Facebook and/or YouTube, whereas other teams used Instagram live as their main platform. Despite the rapid changes that had to be introduced during the pandemic,

Soapbox Science online events managed to reach 21,837 people in 2020. Speakers valued the chance to engage in science communication during a time when live events were no longer running and enjoyed learning new skills in the form of video preparation and editing.

#### What do speakers say about Soapbox Science online events?

"It was great for us to interact like this and have the level of engagement on social media. It has been extremely fun and taken me out of my comfort zone" — Soapbox Science London 2020 speaker

"Well done to all the other speakers too, I really enjoyed the different talks and the extraordinary research being done in the region." – Soapbox Science Nottingham 2020 speaker

"There were some great questions and it was highly enjoyable! Many thanks again, I have really enjoyed the Soapbox Science journey (I'm sure it'll feature in my future "memorable" moments)." — Soapbox Science London 2020 speaker

## **Ten Years of Events**

Soapbox Science's inaugural event was held on London's Southbank in 2011. Twelve speakers were invited to participate, selected for their range of disciplines and passion for science communication. Speakers included Professor Sue Black OBE, Professor Dame Georgina Mace and Dr Maggie Aderin-Pocock.

Positive feedback from speakers, the audience and the press meant that the event rapidly became an annual fixture in London. By 2014, several Soapbox Science alumni from other



Image: Dame Georgina Mace at Soapbox Science

cities had come forward and requested help in setting up their own events in their local areas. Delighted by the idea

of expansion, Nathalie and Seirian set up a training program for new Local Organising Teams, hoping to make Soapbox Science flexible and reproducible.

Soapbox Science events all have a local focus and aim to connect people with the scientists working in their city. For this reason, a single country may have an event in each major town or city that has at least one scientific research institution. For example, UK-based teams have held events in 27 locations around the country, including cities such as Bristol, Cambridge, Canterbury, Edinburgh, Exeter, Glasgow, Plymouth, Swansea and York.

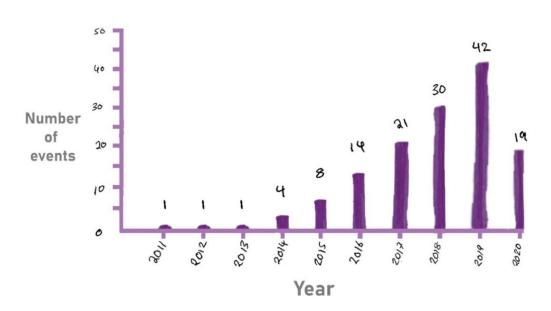


Figure 1: Number of Soapbox Science events by year

Each year more teams register an interest in setting up their own events and the Soapbox Science family has grown to include many cities around the world. In the past 10 years, **141** Soapbox Science events have taken place, with the maximum number of events in a single year so far being 42, in 2019. The COVID-19 pandemic of 2020 meant that sadly many planned events had to be cancelled, with some choosing to move to an online format. However, as live, in-person events return, the current trajectory means that there could be as many as 100 teams running events every year within the next five years. Our Soapbox Science training program and central event administration support has thus had to be streamlined and adapted to account for this.





Over the past 10 years (2011-2020), Soapbox Science events have happened in 59 cities in 14 countries. Having started in the UK, the first international event was held in Dublin, Ireland, in 2014, followed by Brisbane, Australia, in 2016. In 2020, Soapbox Science held events in Africa, Australasia, Europe, North America and South America.

59
Cities

Once an event has been established in a new country, it has been common for more events to follow in other cities. For example, the first Canadian event was held in Toronto in 2017, and eight other Soapbox Science events have since been established in other Canadian cities, such as Calgary, Halifax, Quebec and Winnipeg. Similarly, the first event in Brazil (Rio de Janeiro) in 2019 was quickly followed by two other events in the country the following year (namely Maceio and Salvador), with more cities due to take part in the future.

The Soapbox Science season runs from May to November, with individual events choosing their preferred date. Almost all events happen on Saturdays, with a few exceptions for special events like festivals. So far, all events have been established in major urban areas, with some events offering regional satellite events for surrounding locations.

Almost all events are tied to one or more Host Institutions, through the Local Organising Team. These are primarily universities or research institutions which offer support in many ways, for example, they may help with financial, administrative, or press and media support.



Image: Countries that have held Soapbox Science events- Argentina, Australia, Belgium, Brazil, Canada, Germany, Ireland, Portugal, Nigeria, South Africa, Sweden, Tanzania, UK, USA

Image: Locations of Soapbox Science events by year



2012 London

London

London, Dublin, Bristol, Swansea

London, Exeter, Bristol, Swansea,

Bristol, Cambridge,
Cardiff, Edinburgh,
Exeter, Hull,
London, Manchester,
Milton Keynes,
Newcastle, Oxford,
Reading, Swansea,

Brisbane

2017

Manchester, Newcastle,

Glasgow,

Belfast

Belfast, Brighton,
Bristol, Cardiff, Edinburgh,
Exeter, Galway, Hull,
London, Milton Keynes,
Newcastle, Swansea,
Berlin, Townsville,
Toronto, Leeds,
Lincoln, Thamesmead,
Oxford

2018

Aberdeen, Bluedot,
Brighton, Bournemouth,
Cambridge, Canterbury, Cardiff,
Edinburgh, Exeter, Galway,
Grantham, London, Milton Keynes,
Newcastle, Norwich,
Oxford, Perth, Plymouth, Sheffield,
Swansea, York, Arusha,
Berlin, Calgary, Chicago,
Halifax, Munich, Toronto,
Umea, Windsor

2019

Tucumán, Gold Coast,
Sydney, Rio de Janeiro,
Calgary, Halifax, Ottawa, Toronto,
Waterloo, Berlin, Munich, Dublin,
Cork, Galway, Lagos, Cape Town,
Umeå, Uppsala, Arusha, Aberdeen,
Belfast, Brighton, Bristol,
Canterbury, Cardiff, Edinburgh,
Exeter, Leicester, London,
Milton Keynes, Newcastle,
Norwich, Plymouth, Reading,
Stoke-on-Trent, Swansea,
York, Boulder,
Chicago

2020

Quebec,Toronto,
St John's, Winnipeg,
Berlin, Düsseldorf,
Munich, Dublin, Galway,
Lagos, Lisbon, London,
Milton Keynes,
Nottingham, Sydney,
Brussels, Maceio
Salvador

## **Our Local Organisers**

Soapbox Science grows organically, as interested people volunteer to run an event in a new city or town. These Local Organisers form a team, receive training from Soapbox Science and establish events that can run year after year. Many Local Organisers are past speakers who have moved to new cities or countries that do not currently have a Soapbox Science event. However, some are people who have not taken part previously but have learned about the event in other ways. Although speakers at events are only women or non-binary researchers working in STEMM, Local Organisers and their teams can include anyone who is interested in setting up a Soapbox Science event. They are or become experts in event organisation and help to foster a network of scientists from different disciplines, who are passionate about public engagement and science communication.



Each team typically consists of 3-5 people, but some teams have up to 10 members. There are currently **more than 200** members of Soapbox Science Local Organising Teams.

#### Why do Soapbox Science Local Organisers choose to run events?

"We have so many wonderful women in science in South Africa and it's time for the public to meet them and a Soapbox Science event is just the best format to make this happen. We hope that our speakers and their passion will be an inspiration for the future generations of scientists."

Soapbox Science Cape Town

"Held in a shopping mall, the Milton Keynes event always attracts a really diverse crowd making it a fantastic opportunity to share science and inspire the next generation of scientists... We are building links between institutions, and really enjoy the networking opportunities this provides for organisers and speakers alike."

Soapbox Science Milton Keynes

"As a group, we share a fundamental belief that diversifying science contributes to better science, better decision-making and better opportunities for everyone. By giving our fabulous Soapbox Scientists a platform to share their knowledge with the public, we are building a more accessible and inclusive science community."

- Soapbox Science Toronto

"Our team has a diversity of professionals: from Ph.D students, postdoctoral fellows to early career scientists, all converging to an important motivation: to promote the role of women in science and in society."

- Soapbox Science Tucumán

Image: Some of the Soapbox Science Local Organising Teams. Top left to bottom right: Arusha, Belfast, Brussels, Berlin, Brighton, Exeter, Lagos, Edinburgh, Toronto, Milton Keynes, Rio de Janeiro, Tucumán.



## **Our Sponsors**

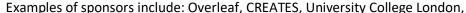
Soapbox Science could not run without the generous support of its main sponsors. Soapbox Science has been sponsored from the start by the L'Oreal For Women in Science Programme and the Zoological Society of London. Between 2014 and 2018 the project was supported by two Science and Technology Facilities Council (STFC) Public Engagement Large Awards. These grants aided in the expansion of Soapbox Science by enabling the recruitment of a Coordinator. Since 2018, the Coordinator role is funded by the Zoological Society of London. Isla Watton has been the Soapbox Science Coordinator since September 2016.







Alongside core sponsorship, individual events are supported by many local sponsors. Since 2011, more than 100 companies, institutions and funding bodies have supported one or more Soapbox Science events. This includes financial sponsorship towards event costs as well as in-kind support in the form of press and media support, transport and logistics, food and drink, or even help with building wooden soapboxes.



Department of Science and Innovation (DSI) South Africa, Cluster of Excellence NeuroCure, Einstein Center for Neurosciences Berlin, Leibniz Institute of Freshwater Ecology & Inland Fisheries (IGB), University of Sussex, Institute of Physics, Royal Society of Chemistry, Edinburgh Napier University, The University of Exeter, Dalhousie University Office of the President, Ryerson University and Society for Applied Microbiology (SfAM).



#### What do our sponsors say about Soapbox Science?

"Soapbox Science really stood out as being an amazing channel for female scientists to step into the public arena and showcase their work." – Kate Chidzik, Overleaf, Soapbox Science London sponsor.

"A programme like Soapbox Science is absolutely fantastic. It puts women out there on their soapboxes in the streets in the most unlikely places that you think you might bump into a scientist. It just shows the public that there are women scientists out there; not all scientists are men with grey hair and look like Einstein. It's a really important thing to do."- Katie Gandon, L'Oreal, Soapbox Science Sponsor.

## **Our Speakers**

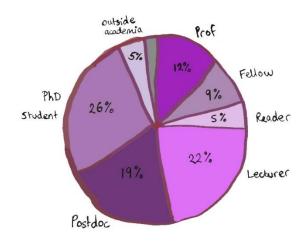


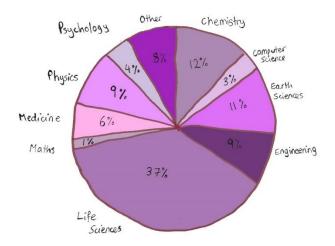
**1659** speakers have taken part in a Soapbox Science event over the past 10 years. They were selected by Local Organising Teams from a pool of over **3500** applicants from more than **600** institutions.

Between 2016-2020 a diversity monitoring questionnaire formed part of the UK application process. 1781 applicants filled out this questionnaire and listed their ethnicity as the following: 76% White, 12% Asian, 2% Black, 4% mixed heritage, 2% other heritage, 3% did not say.

Furthermore, a diversity survey was sent to all 570 speakers from the period 2011-2017. 235 speakers responded to the survey. Seven percent considered themselves to have a disability and 10% of respondents identified themselves as lesbian, gay or bisexual. One speaker self-identified as gender non-binary and one as a trans woman.

The figure on the right shows the distribution of job titles among our speakers over the period 2011-2017 as the following: Professor 12%, Fellow 9%, Reader 5%, Lecturer/Senior lecturer 22%, Postdoc 19%, PhD student 26%, Outside academia 5%, no response 2%. The majority of speakers worked in academia with 5% working in industry.





The figure on the left details the research disciplines of Soapbox Science speakers: Chemistry 12%, Computer Science 3%, Earth Sciences 11%, Engineering 9%, Life Sciences 37%, Mathematics 1%, Medicine 6%, Physics 9%, Psychology 4%, Other 8%. The largest proportion of speakers came from Life Sciences, with the smallest proportion coming from Mathematics.

A survey<sup>1</sup> sent to all speakers from 2011-2017, which asked speakers about their confidence, found that participating in Soapbox Science had a significant positive impact on speakers' self-reported confidence in speaking, at work and in networking.

Almost half (44%) of speakers said that their participation in Soapbox Science had a high influence on their volunteering to give further public talks, while 97% mentioned Soapbox Science in their applications for new jobs.

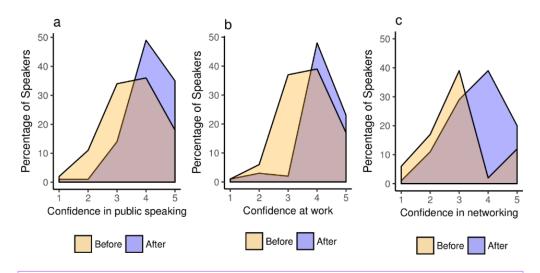


Figure 2: Following participation in Soapbox, speakers' confidence shows a significant increase a) in public speaking, b) at work, and c) in networking. Confidence is rated on a 5-point Likert scale where 0 = no confidence and 5 = very high confidence; 356 responses.

<sup>&</sup>lt;sup>1</sup> Boakes E.H., Pettorelli N. & Sumner S. (2021) "Giving Women a Public Voice Helps Tackle Gender Inequality in Science". Soapbox Science Report 1, 20pp. <a href="http://soapboxscience.org/wp-content/uploads/2021/02/Soapbox-Science-report-February-2021-1.pdf">http://soapboxscience.org/wp-content/uploads/2021/02/Soapbox-Science-report-February-2021-1.pdf</a>

#### What do speakers say about the impact of their participation in Soapbox Science?

"Soapbox Science goes down well at interview panels"- anonymous feedback survey

"The Tweet showing me on the soapbox was prominently featured in my job talk slides!"- anonymous feedback survey

"The experience was heart-warming and energising. Not only does it feel good to get out there and think about how to make one's science relevant to all but engaging with such a wide range of curious people stimulates one's own thinking." — Prof Susan Michie

"Other activities I have done because of the confidence I gained from Soapbox benefitted my application significantly." - anonymous feedback survey

"I felt like all the speakers that day had ignited enthusiasm, awareness, and scientific understanding in many people. Everyone seemed to be buzzing with the success of the event." - Dr Jessica Davies

Speakers are trained on how to prepare for their presentation and to come up with engaging ways of showcasing their work to the general public. The training workshops happen roughly two months before the event date and are standardized across all events. Local Organising teams deliver the training and may enlist the help of professional science communicators. Past UK guest trainers have included Vivienne Parry, George McGavin and Robin Ince.

Content of the workshops includes: an introduction to issues facing women and non-binary people in STEMM; the use of appropriate language; how to engage the audience; and the use of props. Speakers have come up with some excellent props over the years. Some examples include: a life-sized model of a cow; a black hole made

from a blanket; and experiments for children to get involved with. Some of our speakers have also been able to grab the public's attention without any props: famously, one of our speakers made her whole audience dance the macarena on London's Southbank.

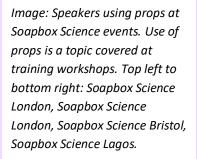
During 2020, training workshops had to move online. Organising teams held virtual workshops and Soapbox Science created a series of training videos for speakers. These covered the content of the original workshops, but also provided tips on how to prepare an online presentation. The videos were available on Soapbox Science's YouTube channel.



Image: A speaker training workshop in London, UK. Robin Ince is the guest trainer.











#### What do speakers say about Soapbox Science training events?

"I liked having a large training event for everyone to have the opportunity to meet each other, as well as a local event. It was great to meet so many women so passionate about science!" — Soapbox Science Bristol speaker

"I really enjoy the experience, I think it is an extremely important action, and I really like the workshop that we had, and believe that every researcher should have one like this" – Anonymous speaker feedback

"This is a fantastic opportunity for early-career female scientists to speak with higher up female academics, potentially naturally evolving into a buddy system. I believe that Soapbox Science provides a fantastic platform for this" – Anonymous speaker feedback

### **Our Volunteers**

Soapbox Science events can only run with the help of a team of dedicated volunteers. More than **2000** people volunteered at a Soapbox Science event between 2011-2020.

Some volunteers assist the speakers with their presentations by managing props and the audience. Others run the evaluation process by conducting questionnaires or measuring footfall and dwell time, and some are on hand to answer questions from the audience or entice people to come over and join the event. A training session is held just before the start of the event so that volunteers feel comfortable with their roles and ready to take part and have fun!



Many volunteers are university students or colleagues of speakers, or women interested in pursuing a career in STEMM. They may attend so that they can link up with more senior colleagues and find role models in their disciplines, as well as learning more about science communication. Several of our volunteers have ended up becoming speakers at one of our events years later.



Image: Volunteers at Soapbox Science London

#### What do volunteers say about Soapbox Science?

"Volunteering was great! I simultaneously got the chance to listen to many enthusiastic scientists talk about their research and managed to get strangers interested in science. And they realized that there are so many great female scientists around!" — Luisa Andreis

"A newbie in science communication, volunteering for Soapbox Science was a great way to gain insights into how science communication works while learning about current exciting research and making an actual contribution." – Franziska Walther

## **Our Reach**

A total of **214,755** people attended an event over the period 2011-2020. The number of visitors at events varied by location, depending on where the event was located. For example, our experience tells us that events in busy shopping streets generally attract a higher number of visitors than those in parks. The average number of visitors per event was **1500**. Visitor numbers were collected through our evaluation process, part of which involved volunteers counting attendee numbers using clickers.



During 2020, 17 out of 19 Soapbox Science events were held online and reached 21,837 people. This was measured through viewer numbers on the streaming platforms used for the events, including Zoom, Facebook, Instagram and YouTube.

Through surveys conducted by volunteers at live events between 2011 and 2019, we were able to establish that over 50% of visitors were just passing by and had not intended to go to a science event that day. This 'unintentional audience' is the reason why Soapbox Science events are held in free, public spaces. Our surveys also showed that 43% of these visitors rarely or never attend science events.

Based on these visitor questionnaires, our events are well received by our audience. 96% of our attendees rated Soapbox Science as enjoyable or extremely enjoyable and 72% were quite likely or definitely going to find out more about a topic that was covered by one of the speakers.



34% of visitors attended alone, 34% as part of a group of adults and 32% as part of a group with children. Dwell time at events was measured by volunteers who timed and observed visitors from a distance. The median dwell time was 5 minutes, with family groups staying the longest.

The questionnaire also asked for demographic data of visitors. It showed that 28% of adults questioned had finished their education at A-Level or below. 57% stated that neither they, nor their family members had any involvement with science. Data on the visitors' ages showed that the age groups that were most represented were 25-34 years old (27%) and 35-44 years old (21%). 66% of visitors lived in the local area.



Image: Soapbox Science Cardiff. A girl who had watched Dr Ann Ager's presentation three times decided to join in, presenting the science to new audience members.



Image: Prof Susan Michie gave a talk about behaviour change on London's Southbank. She said: "The most memorable interlocutor was a man who said he had bipolar disorder and struggled to find his 'middle' and keep there and wanted advice as to how to achieve it. This led to a discussion about how emotions and behaviour interacted and the importance of recognising patterns so that one could intervene early on when things were going awry. As he left, he turned around and pointed at me and shouted 'You are legend!' – praise indeed."

#### What do visitors say about Soapbox Science?

"My daughter was fascinated as we walked by so we stopped to listen" – Anon, feedback questionnaire

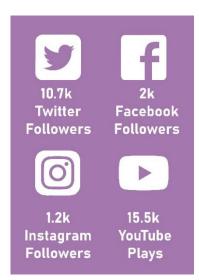
"Thank you for engaging my three year old in ideas of evolution-she loves her mountain monster!" – Chris, Twitter

"It was fascinating and my 5-year-old repeated it all back to me in the bath this evening and is even more set on becoming a marine biologist than he was before!" – Lizzie, Twitter

"Beth [11 yr old daughter] was glowing - we've been discussing hedgehogs and cuttlefish ever since....!" – Dominic, post-event email

"It's so different and a unique experience" – Anon, feedback questionnaire

"Great to hear about women scientist. Lack of encouragement in school" – Anon, feedback questionnaire



On top of running events, Soapbox Science runs several social media accounts to engage with speakers, sponsors, STEMM professionals and the public.

The main Soapbox Science Twitter account was set up in 2011 and had **10,700** followers as of December 2020, with each additional local event twitter account having an average of 1000 followers. Twitter is used mainly to engage with the scientific community and to showcase the work of Soapbox Science speakers. The annual speaker call is also advertised heavily on Twitter.

Soapbox Science's Facebook page was set up in 2015 and had **2000** followers as of December 2020 and the speaker alumni group had 195 members. Local Soapbox Science event Facebook pages have an average of 500 followers each. Facebook is used by many of the Local Organising teams to advertise their events. During 2020, Facebook was also used to live stream some events and offer the public the chance to comment and ask questions.

The Instagram page had **1200** followers as of December 2020. Local event Instagram accounts have an average of 1000 followers each. The Soapbox Science Local teams in Brazil used Instagram to hold speaker interviews and live online events, predominantly during 2020, but also to advertise in-person events and encourage dialogue between speakers and the public.

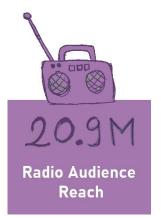
Soapbox Science's YouTube channel had 165 subscribers and 15,500 video views as of December 2020. Videos include event summaries, interviews with speakers and training videos for local teams and volunteers. YouTube was also used to live-stream online events during 2020.

Soapbox Science co-founders Dr Nathalie Pettorelli and Prof Seirian Sumner have written 31 articles about Soapbox Science for a variety of publications. Their writing has been featured in: The Independent, Science, Nature, Scientia, Medium, Womanthology, Digital Science, Huffington Post, The Metro, The Guardian, The Conversation, and New scientist. Most articles cover one of two main topics: Diversity in the STEMM workforce; and science outreach and events in public.





More than 60 news articles have been written about Soapbox Science since 2011, with the initiative being featured in the BBC, The Guardian, The Times, Time Out, The Independent, Times Higher Education, ITV, Chemistry World, The Irish News, Global News, The Londonist, among others. News coverage focuses predominantly on Soapbox Science events and the speakers taking part. Soapbox Science works with the press teams of institutions where speakers are based to try and maximise the media coverage that speakers and their work will receive as part of their participation in Soapbox Science.



In the years 2016, 2017 and 2020, Soapbox Science worked with 4Media on radio and television campaigns, reaching 20.9 million listeners and viewers in total.

Soapbox Science interviews with the co-founders and speakers were featured on Sky News, BBC Radio, BFBS, talkRADIO, Heart radio and more.

These interviews advertised the events and highlighted the need to promote the work of women and non-binary people in STEMM.

Since its inception in 2013, Soapbox Science's website has been visited 581,609 times from more than 60 countries, an average of 4,847 visits per month. The website shows the details of all Soapbox Science events in the form of individual event pages and Local Organising Team pages. The website is also used to host the annual speakers call, which runs from December to February each year. Potential speakers apply through the website where they can find the latest information about which cities are holding events on which dates. Articles written about Soapbox Science by the press and media as well as publications written by Soapbox Science for external platforms are listed on the 'impact' pages of the website.

The website also has an active blog, which features 454 blog posts. Speakers, organisers, sponsors and stakeholders have written articles for the blog on a variety of topics including: "What it means to be a woman from an underprivileged background in science"; "Ten things I wish people knew about autism"; "Why we need more role models in STEMM". The blog currently has 215 subscribers.

Since its inception, our co-founders have received three awards honoring Soapbox Science:

- 1. UK Prime Minister Points of Light Award, 2015. This award recognises outstanding individual volunteers people who are making a change in their community.
- 2. Zoological Society of London Silver Medal, 2016. The Silver Medal is awarded for contributions to the understanding and appreciation of science.
- 3. BES Equality & Diversity Champion award, 2016. This award recognises an individual or group who has made innovative contributions to enhancing the practice of equality and diversity in the ecological community.



#### **Soapbox Science awards**

"Through Soapbox Science, Seirian and Nathalie have inspired scores of leading female scientists from around the country to get out onto the streets and encourage girls to learn more about the opportunities open to them through science. It's so important that girls feel as able as boys to pursue a career in science. And it's great that thousands of people can look to Seirian and Nathalie as role models. I am delighted to recognise them both by making them Points of Light." – David Cameron, UK Prime Minister, 2015. Referencing the Points of Light Award.

"It is truly an inspirational and novel platform for promoting women in science. Soapbox Science was founded in 2011 and its brilliance is its simplicity – there are no stuffy PowerPoint presentations, no wordy exhibits and no expensive props... Soapbox Science provides an opportunity for women scientists to engage with the public in an informal and unusual way, and showcase their work. In all ways, Soapbox Science is a model for scientific communication. Nathalie and Seirian have a knack for organising well-run events with lasting effects for how women scientists are regarded. It is an honour to present Nathalie and Seirian with the Silver Medal." - Professor Geoff Boxshall FRS, Zoological Society of London's Secretary, 2016.

Referencing The Silver Medal.

Whenever possible, Soapbox Science has tried to influence policy decisions by providing evidence to government enquiries.

In April 2016, the UK Science and Technology Committee (Commons) launched a call for evidence for its inquiry into the communication of science. The inquiry explored "how Government, scientists, the media and others encourage and facilitate public awareness of – and engagement in – science". In the Royal Society of Biology's response to the call for evidence, Soapbox Science was mentioned as an example of how Bioscience societies support science communication and public engagement. Subsequently, the Soapbox Science co-founders were invited to provide oral evidence to this inquiry.

## Excerpts from Soapbox Science's evidence submitted to the Science Communication inquiry by the Science and Technology Committee.

"For science communication to reach all segments of society and be effective, it's of paramount importance that a diversity of senders gets to participate in science communication initiatives. This is by far the best way to insure that the science communicated takes into account the variety of communities' traditions and outlooks found in the UK. By providing a diverse range of role models who get to share their passion for science with the general public, science communication initiatives have a real opportunity not only to engage more people with science, but also to ultimately help increase the cultural and socio-economic diversity within the scientific community...

Pre-conceptions about gender, race or socio-economic background can also strongly alter the impact of the message on the receiver, as well as the presentation of the argument by the sender. Political views, religious background and systems of beliefs can particularly matter when scientific consensus on a given issue is not reached; if not carefully considered, these views can alter the objective presentation of the science and alienate a proportion of the audience. These can ultimately damage the trust that the general public will put in science and scientists.

Science communication must definitively pay attention to culture and the corresponding different ways of looking at the world: one way to account for these issues is to insure that a diversity of science communicators (in terms of gender, age, seniority as well as cultural and socio-economic backgrounds) gets to participate in science communication initiatives, while having clear guidelines provided to science communicators when it comes to the presentation of culturally sensitive scientific issues." – Soapbox Science 2016

In March 2016, a report commissioned by the Welsh Government – entitled *Talented Women for a Successful Wales* – sought to find ways to encourage more girls and women in Wales to study STEM subjects and pursue careers in the science sector. The report mentions Soapbox Science (on p. 30) as one of the examples under EDUCATION/Higher Education.

## **Conclusion**

We are extremely proud of what Soapbox Science has achieved in its first ten years. Its internationalisation has totally surprised us: ten years ago, when we (Nathalie and Seirian) tentatively held the first Soapbox Science event on the Southbank in London, we could never have imagined it would have grown to be nationwide, let alone worldwide!

The next big challenge for us is to make Soapbox Science futureproof. Our hope is that one day there will be hundreds of Soapbox Science events running each year, and as more and more events sign up, we need to ensure that local teams continue to get great support and training to run high-quality events that benefit the speakers and the public. This work has started, through the streamlining of our training procedures, but more planning will need to take place over the coming years to deal with the increased volume of work at Soapbox Science HQ.

An unexpected outcome of Soapbox Science has been that it is a great way to engage with amazing researchers around the world, and going forward, we hope to provide our speakers and organisers with more opportunities to make the most of this growing network of like-minded scientists. We have been delighted to witness how communities around Soapbox Science events have grown and hope that many more cities and countries will feel inspired to start events of their own.

We hope to see you at a Soapbox Science event soon!

Isla, Nathalie & Seirian

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