# **Ada Lovelace Day 2018**

End of Year Report



# **Executive Summary**

Ada Lovelace Day is an international celebration of the achievements of women in science, technology, engineering and mathematics (STEM) which aims to inspire and support women and girls working in or studying STEM.

This year, we celebrated the tenth Ada Lovelace Day and looked back on a decade of change. When Suw Charman-Anderson launched Ada Lovelace Day, it was a day of blogging about a woman in technology. Now it's an international celebration of women in STEM that has seen at least 643 independently organised events in 216 different towns or cities in 38 countries around the world.

<u>Ada Lovelace Day Live!</u>, our annual STEM cabaret featuring the UK's best and brightest women in STEM, returned to The IET's <u>Savoy Place</u> with the support of



Suw Charman-Anderson

<u>The IET Women's Network</u>. We enjoyed some fabulous talks and demos, all of which are available to watch on our <u>YouTube channel</u>.

We saw a record number of independent events held around the world, with at least 190 events, in 112 towns or cities across 19 countries, including events in Croatia, India, New Zealand, the Republic of Korea and South Africa.

We ran the first FindingAda Online Recruitment Fair for Women in STEM, an all-day event in February which brought together recruiters from seven employers, and female job hunters from across the UK for video conversations about jobs and opportunities. Sponsored by Xero, the fair was supported by over 30 universities and colleges from across the UK and got great feedback from candidates.

In May, Suw was a semifinal judge for the <u>Virgin Media Business VOOM Pitch 2018</u> competition, and Ada Lovelace Day became one of the VOOM partners with the aim of encouraging more female entrepreneurs to take part. Suw was also <u>a judge for the</u>



VOOM Pitch 2018 final

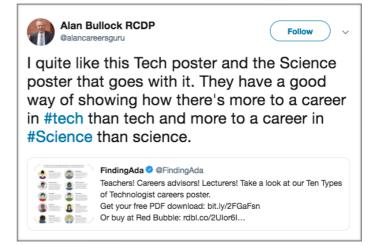
Inspiring Science Award, one of two new awards from Nature Research and The Estée Lauder Companies which honoured exceptional female scientists and advocates for women in science.

In July, the <u>US Senate introduced a</u> resolution to honour Ada Lovelace's legacy and recognise 9 October 2018 as 'National Ada Lovelace Day'. The Simple Resolution, used to "express nonbinding positions of the Senate", was submitted by

Senator Ron Wyden from Oregon and supported by Senator Deb Fischer from Nebraska.

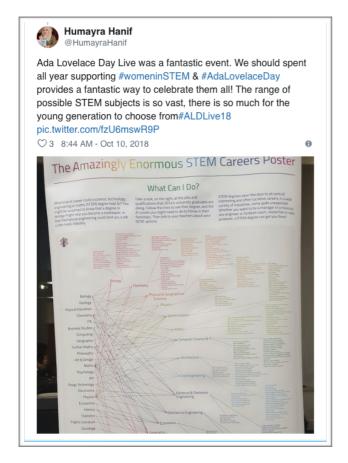
We collaborated with Stack Overflow, the internet's largest online community for software developers, on a new careers post titled What Kind Of Technologist Could I Be?. The poster aims to explode the idea that the only people who work in tech are programmers, and that traditionally female-coded roles, such as Teacher, Communicator and Facilitator are 'not really tech jobs'.

Suw gave talks at the University of Southampton and the Centre of Computing History in Cambridge,



appeared on Restart Radio and BBC Radio Nottingham, and wrote about women in STEM for The Guardian.

And finally, one of our most popular and fun projects was a <u>Christmas STEM advent</u> calendar to highlight historical women in STEM that people may not have heard of.





#### Introduction

Founded by Suw Charman-Anderson in 2008, Ada Lovelace Day is now held each year on the second <u>Tuesday of October</u>. The celebrations include our flagship live event, *Ada Lovelace Day Live*, a 'science cabaret' which provides a platform for women in STEM to showcase their work and research in an informal and entertaining theatre-like setting.

The day is also marked by independently organised events held around the world. And throughout the year, we work on additional projects that support our mission of promoting the work of women in STEM and inspiring girls to study STEM subjects.

This report provides an overview of our activities in 2018 and what we hope to achieve in 2019.

# Confidence is key for girls in STEM

Why are girls rejecting maths and physics at A Level, despite enjoying both subjects? The Institute for Fiscal Studies and the STEM Skills Fund surveyed 266 Year 11 girls who were "predicted to achieve at least grade 7 (equivalent to at least grade A) in maths, physics or combined science GCSE" and senior staff from 40 schools. Whilst the majority of girls said that maths and physics were interesting (77 percent and 61 percent respectively) and enjoyable (83 percent and 57 percent respectively), "despite their high predicted grades, about half of the girls in our sample agreed or strongly agreed with the statements 'I often worry that it will be difficult for me in physics classes' or 'I worry I will get poor grades in physics'".

The most likely reasons for girls' rejection of maths and physics were a lack of confidence in their ability, and feeling discouraged that STEM was male-dominated. This is despite evidence that there is very <u>little difference in aptitude between girls and boys at maths and science</u>.

Other research points to prejudices and stereotypes, which begin at a very young age and continue into adulthood, that position women as less suited to tasks and jobs that require intelligence. When five to seven year olds were asked to pick teammates for a game that "was described as being for 'really, really smart' children", the "likelihood of picking a female teammate dropped".

Evidence suggests that giving girls <u>entertaining</u>, <u>STEM-based activities</u> when they are young can increase their enjoyment of science and tech. In <u>a study with 96 six year olds</u>, children were assigned to either a robot coding task or a card game, and the researchers found that "girls who programmed the robot were much more likely to express interest in programming and confidence in their own abilities to perform technology-related tasks than the girls who didn't work with the robot".

This does not mean, however, that such activities should be restricted to the very young. The Institute of Mechanical Engineers found that girls who choose an engineering apprenticeship may do so at a later age than boys, concluding that interventions should be aimed at ages 15 to 25. They also point to the need to provide good career information to

parents, as many of those interested in apprenticeships get their information from family members, rather than schools.

CaSE also say that young people and their parents, particularly those in underrepresented groups, need access to better information about STEM careers,. Parental experience of STEM is crucial in shaping children's career aspirations: "41% of school children with a parent working in STEM felt encouraged to study STEM subjects, compared to 26% of those whose parents worked in a non-STEM related field".

And in a recent report, the Royal Society of Chemistry emphasised the need for "relatable role models" and greater access to mentoring, amongst other interventions. They quote a survey respondent who encapsulated this point succinctly: "The importance of sponsorship, mentoring and role models cannot be overestimated... I decided to go into industry as I could see a clear career path for myself, and already had examples of women I admired who had been successful."

# Celebrating ten years of Ada Lovelace Day

Ada Lovelace Day started in 2008, when Suw Charman-Anderson began organising a day of blogging about women in technology for the next spring. The day started with a simple promise on British civil action website, Pledgebank: "I will publish a blog post on Tuesday 24th March about a woman in



technology whom I admire but only if 1,000 other people will do the same."

With nearly 2,000 people signed up on Pledgebank and another 1,600 signing up to a Facebook event, the day was a huge success. Contributors wrote blog posts, newspaper columns and even a webcomic – Sydney Padua's <u>Thrilling Adventures of Lovelace and Babbage</u> which has since become an Eisner Award nominated graphic novel. The media covered Ada Lovelace Day with enthusiasm, including <u>The Guardian</u>, <u>The Telegraph</u>, the



All ALD indie events since 2015

BBC and Computer Weekly amongst others, and Suw appeared on the BBC's News Channel to discuss the initiative.

The day has evolved significantly over the last decade and is now celebrated all around the world. The first independent events were held in 2011 in the UK and America. Since then, there have been at least 643 events that we know of, in 216 different towns or cities, in 38 countries, across all major inhabited continents.

We've had events in cities from A Coruña to Zoetermeer, taking in Addis Ababa, Brasilia,

Curitiba, Daejeon, Enugu, Florence, Granada, Halley Research Station, Ísafjörður, Johannesburg, Kathmandu, Ljubljana, Maharashtra, New York, Ockham, Pune, Quartu Sant'Elena, Recife, Sheboygan, Tunis, Ulster, Vilnius, Wellington, and Yerevan on the way.

We did a huge amount of outreach in spring 2018 to encourage both past and new organisers to put on an event and <u>created a focused mailing list for organisers</u> so that we can keep everyone up-to-date with indie event news. Volunteers translated our *Indie Event Organiser* Pack into three new languages, with more to come. The enthusiasm with which people across so many countries, and speaking so many different languages, have adopted Ada Lovelace Day shows just how widespread the desire is to support and inspire girls and women in STEM.

We also marked our tenth birthday with a timeline of all the individuals, organisations and groups who have helped honour Ada Lovelace over the years. And we promoted the release of Ursula Martin, Christopher Hollings and Adrian Rice's new book exploring Ada Lovelace's mathematical education, *Ada Lovelace: The Making of A Computer Scientist*, a copy of which we gave away in a competition ending on Ada Lovelace Day itself.

# **Ada Lovelace Day Live! 2018**

Every year, we hold a 'science cabaret', <u>Ada Lovelace Day Live!</u>, which is unique in the STEM calendar for providing an opportunity for women in STEM to showcase their work or research in a fun and entertaining theatre-like setting. We were delighted to return to The IET's <u>Savoy Place</u> for the second time, and for the first year in a three year run at the venue. Our speakers this year were:

- <u>Prof Sunetra Gupta</u>, novelist & Professor of Theoretical Epidemiology at the University of Oxford
- <u>Dr Chanuki Seresinhe</u>, data science researcher at Warwick Business School
- <u>Dr Susie Maidment</u>, palaeontologist and curator of dinosaurs at the Natural History Museum
- Dr Hilary Costello, engineer of high-altitude aerospace technology
- Prof Emma McCoy, Vice-Dean (Education) for the Faculty of Natural Sciences and Professor of Statistics in the Mathematics Department at Imperial College London
- <u>Dr Diva Amon</u>, deep-sea biology research fellow at the Natural History Museum
- Natasha Simons, science demo builder

Our compère once again was <u>Helen Arney</u>, science presenter, comedian and geek songstress. All the talks are



Dr Chanuki Seresinhe

available <u>on our YouTube channel</u>, photos of the day <u>are on Flickr</u>, and we curated a <u>selection of tweets about the</u> event on Wakelet.

We also had the pleasure of a book signing from <u>Sue Nelson</u>, author of <u>Wally Funk's Race for Space</u>, and of once again hosting Vivian Archer from Newham Books. Ecommerce platform <u>Shopify</u> sponsored our bar, and their developer community lead, Sarah-Jane Morris, flew in from the US with her team to attend the evening and meet our "fantastic attendees" and enjoy our "top notch" speakers. And Schools sponsor <u>SNC Lavelin Atkins</u> also attended to give away goodies and talk to attendees.

We would like to thank Jo Foster from The IET

Women's Network for hosting us at The IET, and the



Sue Nelson

whole team there for supporting the event so brilliantly. We would also like to thank all our volunteers, including the team from Digital Science, for helping the event run smoothly, and our sponsors this year: Deloitte, Shopify, Siemens Rail Automation, Clarivate Analytics, Digital Science, Atkins, F Hinds, SchoolDash, UCL Engineering, Valerie Polichar, Present Indicative, Meromorf Press and Tom Paternoster-Howe, without whose support we would not be able to run Ada Lovelace Day.











Clockwise: Hilary Costello, the book stall, Dr Diva Amon, careers poster, Prof Sunetra Gupta.

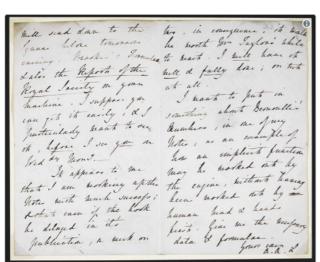


Had the most amazing time at Ada Lovelace Day Live last night! Learnt about influenza vaccines, some seriously cool deep sea lady fish, the gender pay gap, & that jurassic park definitely couldn't happen... Very inspiring speakers! Thanks

@FindingAda #ALDLive18 #AdaLovelaceDay

♡ 14 2:30 AM - Oct 10, 2018







Happy #AdaLovelaceDay In this letter (now in the excellent @britishlibrary) to Charles
Babbage she invents the idea of a computer program by
suggesting that a calculation 'may be worked out by the engine
without having been worked out by human head and hands first'.

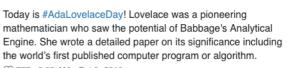
♡ 127 1:59 PM - Oct 9, 2018



#womeninstem#BitzAndBob#womenintech

◯ 167 7:58 AM - Oct 9, 2018





777 6:05 AM - Oct 9, 2018

@sciencemuseum

#### Worldwide events

We are grateful to the many independent organisers who, over the years, have put so much hard work into organising events. This year we translated our events pack into Spanish, Finnish and Welsh in order to better serve organisers in other countries, and we hope to extend this work in 2019.

In 2018, we saw a record number of independent events held around the world, with at least 190 events, in 112 towns or cities across 19 countries, including events in Croatia, India, New Zealand, the Republic of Korea and South Africa.

One stand out event was jointly organised by The New York Times and <u>The Francis Ford Coppola Winery</u> – who on Ada Lovelace Day 2017 released the Great Women Spirits range, including the Ada Lovelace Gin. As part of the <u>NYT's Overlooked project</u>, a series of



obituaries focusing on forgotten women of history, <u>Francis Ford Coppola read a tribute to Ada Lovelace</u> at the Hollywood Forever Cemetery.

We also supported the <u>Peterborough STEM Fest</u> in their third successful year. This festival was a free event aimed at underrepresented families and groups, to encourage an interest in science through fun workshops and activities.





For the first time, we solicited feedback from independent event organisers, and whilst we only received responses from about 14 per cent of organisers, we learnt a lot from them! Event sizes ranged from the tiny, with three attendees, up to the substantial, with 200 attendees, although the average number of participants was 52. The female:male balance also varied greatly, from 100:0 to 10:90, with an average of 72:28. We are happy to see events that promote women in STEM to boys, as it's just as important for boys to learn that women can be experts and figures of authority.

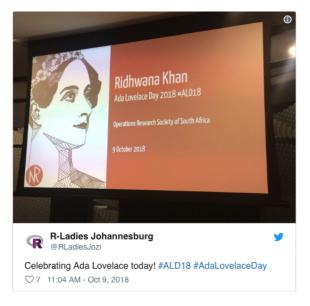
Event audiences also ranged widely, with events focused on almost every age group. Twenty two per cent of events were for children under the age of 18, 55 per cent focused on adults of university age or older, and the remaining 23 per cent had mixed audiences of children and adults.

Several organisers said they'd had such a positive reaction to their event that they were already planning another for Ada Lovelace Day 2019. One organiser, Tanya Fish, who held an event in Sheffield, UK, (right), said that although she'd had only a week to organise her event, "I felt like you really had my back as far as promotion and being part of a larger event" were concerned. Feedback from her event included, "I like[d] making all the different things. I feel like I



actually learnt something. This [is] way better than school and I wish school was like this!".

Another organiser, Megan Shore, who ran an event in Nottingham, UK, got some fabulous feedback from her attendees. "I learnt that even though you might not be clever or might not have opportunities but [you] can still be something great," said one attendee,



whilst others said, "I learnt that women can do anything" and "This was an amazing event and I loved it!". Attendees were asked how much they agreed with the statement 'I feel inspired by science' at the beginning and the end of the event, with the number in agreement rising from 62 per cent at the beginning to 92 per cent at the end.

Kelly Pendergrast organised a Wikipedia editathon in Wellington, New Zealand, and her attendees said they "learned a lot and are excited to contribute further to Wikipedia, and to think more about gender issues in science and tech."

Anna Malan from ARM in Cambridge sponsored a local school to host a day themed

on STEM, innovation and entrepreneurship for 130 girls from nine local schools. The day included a careers workshop, a panel discussion with women from ARM discussing their jobs and career journeys, and a Micro:bit workshop for 30 girls.

Ann Miller at Mead Public Library, Sheboygan, USA, held several events and at one, Girl Scouts could earn their STEM badge by participating. Several attendees commented that they "can't wait to come next year", and others were interested in visiting the library more often so that they could spend more time with the Ozobots, Makey Makey and LittleBits kits that they had been introduced to at the event.

Ana Rodrigo organised an evening of lightning talks for women in Barcelona, Spain, and said that participants "really liked this type of event, since it's not as intimidating to start public speaking".



And that's a wrap! Had a brilliant time meeting so many inspiring women & sharing our passion for Libraries. Spreading the love for creative digital & books The room was buzzing (not just because of the Palace Day @leedslibraries)





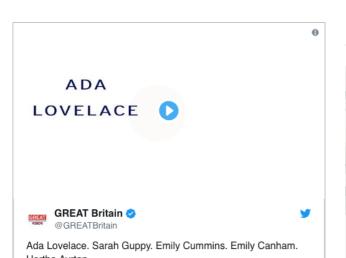
Today for #AdaLovelaceDay, a day to celebrate women in #STEM and their contributions, we would like to acknowledge the amazing women who worked at Bletchley Park during WW2 - making up over 3/4 of the workforce.

Pictures from Hut 11A: The Bombe Breakthrough

C 423 6:07 AM - Oct 9, 2018

#EngineeringIsGREAT

O 21 8:21 AM - Oct 9, 2018



We're celebrating the ingenuity of five British inventors for

#AdaLovelaceDay. #WomenInSTEM #ScienceIsGREAT

Boss barer

Boss b

mrs stump @alias\_me

Happy Ada Lovelace Day everyone! @FindingAda #adalovelaceday

♥ 13 4:57 PM - Oct 9, 2018



Eden Girls' School, Waltham Forest @edengirlsWF

What a wonderful evening celebrating #AdaLovelaceDay @iET #ALD18

◯ 5 1:21 AM - Oct 10, 2018



Ada. National College for Digital Skills
@AdaCollege

What a way to celebrate #AdaLovelaceDay! Speed mentoring for our students with #womeninSTEAM volunteers. Thank you so much to everyone who came tonight, you make such an impact!

♡ 35 2:35 PM - Oct 9, 2018

# **Press coverage**

As ever, Ada Lovelace Day was featured in and reported by a variety of different media outlets, including:

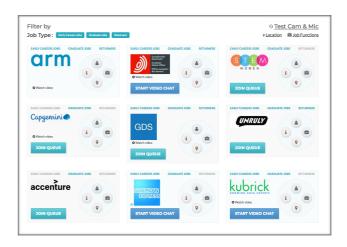
- Ada Lovelace Day, 9 October 2018 gallery, Maria-Livia Chiorean, Margaret Holborn, The Guardian
- Ada Lovelace Day: We should never forget the first computer programmer, Harriet Hall, *The Independent*
- Forbes Releases Inaugural Top Women In Tech List In Honor Of Ada Lovelace Day, Forbes
- Meet Ada Lovelace, the first computer programmer, CNN
- <u>Celebrate Ada Lovelace Day 2018 with these facts about the mathematician</u>, Phil Haigh, Abigail Chandler, *Metro*
- ROLE MODEL Who was Ada Lovelace, what did she invent and why do we celebrate Ada Lovelace Day?, Phoebe Cooke, *The Sun*
- Ada Lovelace Day 2018: five inspiring women in science you need to know, Amelia Heathman, Evening Standard

#### Online careers fair for women in STEM

This year also saw us run the <u>FindingAda Online Recruitment Fair for Women in STEM</u>, an all-day event on Thursday 1 February 2018 which brought together employers and female job hunters from across the UK via an online video platform to discuss specific

jobs and career opportunities. The fair was free for candidates and open to final year undergraduates, recent graduates, masters or doctoral students, early-career job hunters and STEM returners.

The fair was supported by over 30 universities and colleges from across the UK, representing about 30 per cent of the total UK student body. Participating universities included the universities of York, St Andrews, Edinburgh, Oxford, Aberystwyth, Westminster, Leeds,



Gloucestershire, Nottingham, and the West of Scotland, as well as the UK's biggest university, The Open University, and smaller regional colleges such as Bournemouth & Poole College and Plymouth College of Art. A full list is available on our website.

Booths were open to employers from across the STEM spectrum, from start-ups to global multinationals. On the day, we had recruiters from <u>ARM</u>, <u>European Patent Office</u>, <u>STEM Women</u>, <u>Government Digital Service</u>, <u>Unruly</u>, <u>American Express</u> and <u>Kubrick</u> talking to a variety of candidates from across the UK.

The fair was sponsored by <u>Xero</u>, the online accounting firm for small businesses, who supported the production of a number of blog posts, including, <u>tips and advice for online</u> <u>job interviews</u>, <u>how to cope with relocation</u>, <u>preparing for online interviews</u>, and more.

Activity on the day was impressive. Video chats varied in length, averaging just under 11 minutes long, with the longest being 38 minutes long. Just over half the candidates had two or more conversations, with one particularly enthusiastic person having seven! We had candidates at quite a variety of levels, with 40 per cent at undergraduate level, 31 per cent at masters level and 23 per cent at doctorate level. Employers followed up with 65 per cent of all the video chats, which is a very high response rate.

We also received some excellent feedback from people who took part. Candidate Hannah Gill said that it was a "wonderful opportunity to connect with a varied selection of STEM employers", and that the fair provided "inspiring insights into potential career paths with friendly informative representatives."

Another, anonymous, candidate said, "There was definitely more interaction with companies and I think it was good that they could look at your profile and be able to contact you if they wanted. The bonus to this was I spoke to companies I hadn't really considered and it changed my mind. A great opportunity and one I'd like to repeat."

# Virgin Media Business Voom 2018

In May, Suw was a semifinal judge for the <u>Virgin Media Business Voom Pitch 2018</u> competition, and Ada Lovelace Day became one of the Voom partners with the aim of encouraging more female entrepreneurs to take part.

Open to entrepreneurs in the UK and Ireland, Voom is an opportunity to pitch a business idea and win a share of £1 million, plus publicity and mentoring. There were two categories, Spark & Startup for small businesses with up to 19 employees, and Scale & Grow for larger businesses 20 to 250 employees.

Suw was a judge for the Spark & Startup category, alongside Rosanne Gray from Virgin



<u>Unite</u>, <u>Phil Geraghty</u> from <u>Crowdfunder</u>, and Luke Pharaoh from <u>Virgin Start Up</u> (left to right, above). Together, they listened to nearly 40 pitches and Q&As. Entrants then went on to be grilled by specialist judges on finance, marketing, and business planning & leadership.

The three finalists were:

- <u>Castify</u> the easiest way to cast actors
- Gobbler Boats clearing our oceans of pollution
- <u>Junior Einsteins</u> nourishing a love of science

And in the Scale & Grow category, the judges chose:

- <u>Rejuce</u> beautiful juices from ugly fruit & veg!
- Action Petz where dogs' dreams come true
- <u>Therapy Box</u> detecting and supporting communication disability



Two days later at Tobacco Dock, the finalists gathered to make their pitch to five judges: Richard Reed, founder of Innocent Drinks, Sophie Morgan, serial entrepreneur and TV presenter, Susie Ma, The Apprentice finalist and founder of Tropic Skincare, Peter Kelly, managing director of Virgin Media Business, and Virgin Group founder, Sir Richard Branson. The winners were:

Spark & StartUp: Tracey-Jane Cassidy – Junior Einsteins, inspiring a love of science and learning in naturally curious children through hands-on interactive experiments at amazing science events (left, above).

Scale & Grow: Rebecca Bright – Therapy Box, using machine learning to diagnose, treat and support people with hidden communication disabilities (right, above).

Five other partner awards were also made, and you can <u>find out more about them on our blog</u>.

#### Nature Research/Estée Lauder Awards

Suw was also a judge for the Inspiring Science Award, one of two new awards from Nature Research and The Estée Lauder Companies. The Inspiring Science Award honours exceptional female scientists making important scientific discoveries, whilst the Innovating Science Award recognises an individual or an organisation that has led a grassroots initiative to support increased access to, or interest in, STEM subjects for girls and women around the globe.

Both winners received up to \$10,000 to spend on initiatives linked to the award and free training from Nature Masterclasses. The Inspiring Science Award winner also received grants of up to \$5,200 to support open access publication of their research in a Springer

Nature journal, and the Innovating Science Award winner received up to \$5,200 to support events related to their initiative.

The two <u>longlists selected many inspirational female scientists</u> and initiatives, and the overall winners were Mirjana Pović for Inspiring Science, and The Association of Hungarian Women in Science (NaTE) for Innovating Science. You can find out more about the winners and <u>watch the awards ceremony on the Nature website</u>.

#### **US Senate honours Ada Lovelace**

In July, the <u>US Senate introduced a resolution</u> to honour Ada Lovelace's legacy, and recognise 9 October 2018 as 'National Ada Lovelace Day'. The Simple Resolution, used to "express nonbinding positions of the Senate", was submitted by Senator Ron Wyden from Oregon and supported by Senator Deb Fischer from Nebraska.

We were delighted to see Lovelace's contributions recognised in the way, and feel privileged that the Senate chose to support our mission of raising the profile of women in STEM. You can <u>read the full resolution on the US Congress website</u>, or <u>on our site</u>.

# Ten Types of Technologist careers poster

This year, we collaborated with <u>Stack Overflow</u>, the internet's largest online community for software developers, on a new careers post titled <u>What Kind Of Technologist Could I Be?</u>.

Stack Overflow analysed a huge corpus of job ads posted to their site, as well as results from their 2018 Developer Surveys, in order to identify ten broad categories of role in the tech industry. We then crafted descriptions that we hope will inspire girls to consider the wide variety of options available to them in tech.

The poster aims to explode the idea that the only people who work in tech are programmers, and that traditionally female-coded roles, such as Teacher, Communicator and Facilitator are 'not really tech jobs'.

As with our other careers posters, *What Kind Of Technologist Could I Be?* is available as a <u>free download</u>, and as a <u>print-on-demand poster</u> via our shop at RedBubble.



# Talks, events and presentations

#### Invention of Career

In May, Suw gave <u>a free guest lecture at University of Southampton</u> on the way we talk about careers, and how we can give young people a more honest view of our work lives.

#### Give IT a Go: Panel Debate

The day after Ada Lovelace Day, Suw moderated the <u>Give IT a Go panel debate</u>, part of the Centre for Computing History's <u>Women in Computing Festival 2018: Her Story</u> series of events. It was a lively discussion about how women can get in, stay in and get back in to careers in tech.

#### **Restart Radio**

On 3 April Suw was <u>interviewed by Restart Radio</u> on how ALD began and how it became such a huge initiative. She also spoke about her reasons for making Ada Lovelace the figurehead, and why role models are important for girls and women in STEM.

#### **BBC Radio Nottingham**

Towards the end of November, Suw was interviewed by BBC Radio Nottingham about the campaign to get a women in science on the front of the new £50 note, and in particular, the push for Ada Lovelace to receive that honour.

#### Five amazing female scientists you've probably never heard of

She also <u>wrote a piece for *The Guardian*</u> on role models, and how important it is to make sure their stories and lives are available on Wikipedia for others to read. Suw chose five women who are not just good role models for women, but whose contributions aren't celebrated as much as they should be.

# **Community**

This year we created a new Facebook group called <u>Women in STEM organisers</u>, a space for sharing resources, funding suggestions and assistance with applying for grants, which has already got 146 engaged members. It's proving a very useful network for collaboration and connections with other organisers in the field.

Our <u>Ada Lovelace Day group</u>, for general discussions about women in STEM and other relevant news, currently stands at 550 members, and our <u>Facebook page</u> has 1,136 likes and 1,177 followers, which is an increase of about 40 percent for both likes and followers from last year.

<u>The Plotters' Club</u>, our Facebook group for female authors and STEM experts, run in conjunction with <u>The Clarke Award</u>, now has 131 members.

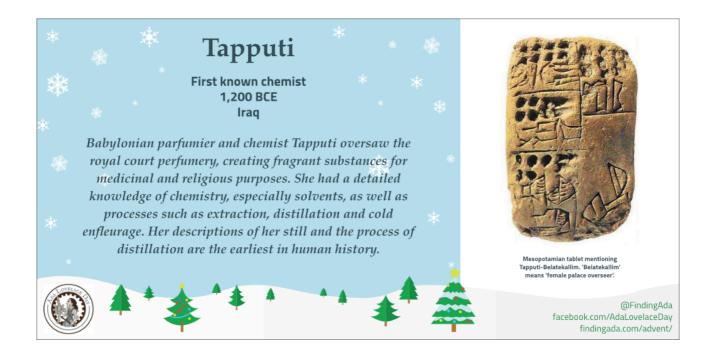
On Twitter, we now have 17,685 people following <u>@findingada</u>, an increase of about 30 per cent on last year's figures. We were, however, badly affected by changes to Twitter's rules on repeat posts, which made it harder to schedule tweets around the clock, and reduced the overall number of updates we could make. That had a knock-on effect on engagement and followership increases. As in previous years, most of our followers are in the UK, accounting for 40.0 percent of followers, and 30.9 percent coming from the USA.

Our <u>newsletter</u> held steady at 1,265 subscribers, with 41.8 percent of subscribers in the USA, 32.5 percent in the UK and 19.3 percent distributed around the rest of the world.

<u>Findingada.com</u> averaged 14,500 page views each month, with an average of 10,500 unique visits, with 28.7 percent of visits lasting longer than 30 seconds. The majority, 40.4 percent, of visitors came from the UK, with 24.9 percent from the USA.

#### **Christmas Advent**

One of our most popular and fun projects was a Christmas STEM advent calendar, to highlight historical women in STEM that people may not have heard of. We made sure to include women from all around the world and in a range of disciplines. For each day we had an infographic with an image and a summary, and a fuller blog post that included links to further reading. It was extremely well-received on Twitter, and we had a lot of lovely feedback. At the end, we put together a <u>video slideshow</u> showing all 24 of the women we featured.



# **Projects for 2019**

#### Ada Lovelace Day Live! 2019

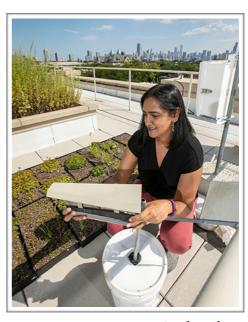
Ada Lovelace Day Live! 2019 will be held on the evening of Tuesday 8 October at The Institution of Engineering and Technology. We are once again grateful to The IET Women's Network for their ongoing support, and look forward to spending another entertaining and educational evening learning about the work of some of the UK's leading women in STEM.

If you want to be amongst the first to receive our speaker announcements and know when tickets go on sale, <u>subscribe to our newsletter</u> or <u>follow us on Twitter</u> or <u>Facebook</u>.

#### **Ecology collaboration**

Over the next 18 months, we are collaborating with ecologists from the University of York and DePaul University in Chicago, USA, to run an international ecology and professional development workshop. We are aiming to both develop participants online collaboration skills and to create a professional network amongst participants, who will be predominantly from underrepresented groups and countries in STEM, particularly the global south.

The project was awarded a £80,177 grant by the Natural Environment Research Council (NERC), which will fund a study fungi essential to soil health as well as promoting inclusivity and the retention of women and minorities in science. We are incredibly excited to have the opportunity to work on practical measures to support women and minorities in STEM.



Dr Bala Chaudhary, DePaul University

#### Knowledge sharing and mentoring network

In May 2018, we began work on a knowledge sharing and mentorship network for women in STEM and their advocates. We have been speaking to women in STEM, learned societies, advocates and STEM businesses to get an idea of their needs and priorities.

We are also running an ongoing <u>survey</u> to find out more about what people want, and the results have been hugely informative. Interim results are that 48.3 percent of respondents work both as a woman in STEM and as an advocate for women in STEM, whereas 40.9 percent work only in STEM and 10.8 percent only in advocacy. Individual respondents placed great importance on 1-to-1 mentoring, learning how to be a mentor/mentee,

knowledge sharing and having a place to ask questions. Those interested in business packages also value group mentoring, goal setting and tracking, and information on advocacy best practice.

With this information in mind, we are currently assessing which platforms will meet our community's needs, and developing a pricing and launch strategy. We hope to begin talking to businesses about providing access to their staff before the end of Q1, and hope to have a targeted soft launch in the UK before the end of Q2, before later opening it up to the general public. If you would be interested in a business package for your female staff, please email Suw.

# Challenges for 2019

#### **Brexit**

The biggest challenge for us this year is Brexit. The economic uncertainty caused by the political upheaval in the UK made sponsor recruitment in 2018 very difficult, and we predict that this will worsen in 2019 as Brexit comes to a head.

In the best case scenario, Brexit is cancelled and the country can begin to recover from the economic damage that has already been inflicted. We would expect this to result in a small decrease in British sponsorship as budgets are adjusted to cope with the impact that nearly three years of economic uncertainty has had.

In the worst case scenario, the UK leaves the EU without a deal, and severe economic damage results in corporate social responsibility and marketing budgets being cut to the bone. In that scenario, we expect British sponsorship to dry up almost completely.

We will attempt to mitigate this by focusing on attracting sponsors from other countries, particularly the USA. This approach will be unpredictable, as most sponsors either approach us organically or come through Suw Charman-Anderson's personal connections which are still predominantly in the UK. However, a successful roll-out of the mentorship network will mitigate the loss of income from sponsors.

#### **Twitter and Nuzzel**

A secondary challenge relates to Twitter's March 2018 rule changes, which banned the posting of substantively similar tweets. The change was intended to reduce spam, but was interpreted very strictly by the tweet scheduling app we used, resulting in a sudden drop off in activity. We have struggled to maintain an appropriate flow of updates, not least because it takes significantly more time to write a dozen unique tweets than to schedule the one tweet a dozen times.

Twitter remains our most effective social media channel, and our audience there is much more responsive than our audience on Facebook. However, reach and engagement, including profile visits, mentions and retweets, is strongly correlated with tweet volume, so the reduction in tweeting has resulted in slower follower growth, lower reach and reduced engagement.

We did experiment with the Twitter-based newsletter service <u>Nuzzel</u> in an attempt to find new content for our Twitter account and increase interest and interaction. Nuzzel suggests links for an email newsletter based on what the user's Twitter network shares. Unfortunately, not only has Nuzzel had significant downtime over recent months, we were unable to grow our subscriber list beyond 60 subscribers, so have cut publication from daily to weekly and will reassess our use of the service in Q2.

Ultimately, the only way to solve the Twitter problem is to spend more on freelance help. We will consider this course of action later in the year, if finances allow.

# Thanks to our partners, sponsors, supporters and volunteers

Ada Lovelace Day could not provide the support and opportunities it does without the support of our generous <u>sponsors and partners</u>. We would like to thank <u>The IET</u> for being our venue partner for 2018, as well as <u>Deloitte</u>, <u>Shopify</u>, <u>Siemens Rail Automation</u>, <u>Clarivate Analytics</u>, <u>Digital Science</u>, <u>Atkins</u>, <u>F Hinds</u>, <u>SchoolDash</u>, <u>UCL Engineering</u>, Valerie Polichar, <u>Present Indicative</u> and <u>Meromorf Press</u> for their support this year

If you would like to join this list and become one of our supporters in 2019, then <u>please</u> contact Suw Charman-Anderson.

We are also very grateful to our <u>Patreon supporters</u> who, at the end of 2018, were donating a total of \$151/£115 per month. We value every penny and hope you will considering becoming a Patreon supporter in 2019.

Last, but definitely not least, our thanks are due to our Advisory Council, volunteers, helpers, speakers and independent event organisers, whose hard work and dedication has made Ada Lovelace Day into a truly worldwide phenomenon that is now an integral part of many people's calendars. Thanks also to our freelance admin staff and volunteers who have enabled us to expand our work and to help girls and women in STEM all year round.



# Current partners and sponsors



# Deloitte.





























Natasha Simons and volunteer from the audience

ALD Live! photos by Tracy Howl



# **Contact Information**

Suw Charman-Anderson Founder, Ada Lovelace Day

Email: <a href="mailto:suw@findingada.com">suw@findingada.com</a>
Web: <a href="mailto:FindingAda.com">FindingAda.com</a>

Twitter: @findingada

Facebook: facebook.com/AdaLovelaceDay