

CONNECTING  
SCIENCE

IDEAS

EXPERIENCES

CULTURES

DISCUSSION

LEARNING

HEALTH

PEOPLE

QUESTIONS

THINKING

OPINIONS

SOCIETY

CONVERSATIONS

RESEARCH



#### Our vision and mission

It is a great pleasure to introduce the first Connecting Science annual review. We are living through a revolution, where genomics and its associated disciplines are influencing all areas of biological research, impacting medical decisions, and starting to change how we see ourselves as humans and individuals. Connecting Science is our response to this revolution: we aim to enable everyone to explore genomic science and its impact on research, health and society. The past year has been a very significant one for us, with the start of a new funding period and the expansion of our programme to include research into the ethical and societal implications of genomics. With a strengthened vision and an expanded team we look back on the past year with pride, and forward to the next with excitement.

Over the past year, Connecting Science has utilised the science taking place on the Wellcome Genome Campus and beyond to inspire new thinking, spark conversation, and support learning. We have welcomed a range of audiences, from scientists and healthcare professionals attending cutting edge meetings at the Conference Centre, to digital visitors using resources such as yourgenome.org or contributing their opinions to our global attitude surveys, to school and community groups visiting the Campus and learning about genomics for the first time. We have also taken our work to a variety of low- and middle-income countries across Asia, Africa and South America, increasing the reach of our programme and playing our part in democratising the uptake and application of this new area of science.

This review doesn't attempt to encompass everything that we do, but to give you a flavour of our work, our impact, and the innovative and dedicated people that make up Connecting Science. We have ambitious plans for the future, and would love to take you on the journey with us, as collaborators, partners and supporters. On behalf of the entire Connecting Science team I'd like to thank all of you who have worked with us in the past year, because the very nature of our activities mean that we can't deliver them without working in deep partnership with you. I look forward to continuing to work together to deliver our unique programme.

**Dr Julian Rayner**  
Director, Connecting Science

“There was a lot of exciting science. The quality of the attendees is the main determinant of the success of a meeting and this one certainly attracted the best people in the field.”

Delegate Single Cell Genomics conference 2016

“I loved the one-to-one sessions – it was great to have the opportunity to have the focussed attention of some of the world leaders in the human genomics field, and be able to ask them anything we wished. As well as helpful scientific discussion, we were able to get a lot of useful career advice and insight into how they got to where they are today.”

Delegate Leena Peltonen School of Human Genomics course 2016

“It was inspiring to see so many talented women presenting their research.”

Delegate Immunogenomics of Disease: Accelerating to Patient Benefit conference 2017

# Training course in South America produces original research paper

Dr Darren Hughes Scientific Officer,  
Advanced Courses and Scientific  
Conferences

Last April, twenty scientists from across Latin America and the Caribbean arrived in Argentina to develop their skills in pathogen surveillance. One week later, they had not only sequenced and analysed samples from three regional disease outbreaks – including one that unfolded during the course itself – but had also written and submitted an original research paper!

Routine monitoring and surveillance of bacterial pathogens plays a key role in minimising and controlling large-scale outbreaks of human, animal or food-borne disease. By understanding the origin of disease outbreaks and their spread, public health officials are much better placed to prevent new occurrences and potentially save lives. Traditionally pathogen surveillance has used molecular and biochemical techniques to identify disease-causing bacteria, but new genomic technologies now have the potential to produce both accurate and rapid results.

The fourth Genomics and Epidemiological Surveillance of Bacterial Pathogens course, one of the Overseas Courses developed and delivered as part of the Advanced Courses and Scientific Conferences programme was held at the Administración Nacional De Laboratorios E Institutos De Salud (Malbrán Institute) in Buenos Aires, Argentina, and taught by instructors from across Latin America, South East Asia and the UK, including the Wellcome Trust Sanger Institute. The course explored how genome sequencing can be used in combination with molecular methods to enhance disease surveillance and epidemiology, and if next generation sequencing can truly rival the regional 'gold-standard' of pulsed field gel electrophoresis (PFGE)-based identification.

Initially, students sequenced and analysed samples from two outbreaks of shigellosis (a diarrhoeal disease) that occurred in the same province of Argentina in 2010 and 2011, which were suspected to be caused by the bacteria *Shigella sonnei*. Course students combined the available epidemiological and microbiological data with PFGE and whole genome sequencing to confirm the cause of the outbreak, and to analyse how related these two occurrences really were. Despite taking place in the same area and involving the same bacterial species, the students found that the two events were completely independent of each other, with genome sequence analysis demonstrating that they were caused by two relatively distantly related *S. sonnei* clones.

2016 overview



# 3,567

course and conference delegates





Crucially, genomic sequencing also confirmed antimicrobial resistance (AMR) characteristics of the bacteria, including identifying genes associated with resistance to cefpodoxime, one of the current mainstays for the treatment of shigellosis in Argentina. Genes predicting resistance to antimicrobials not used in routine susceptibility testing were also identified, indicating that genomic analysis has the potential to play a key role in understanding the evolution of antimicrobial resistance, which remains a major global challenge in combating the spread of bacterial disease.

As course students and instructors were working through the data, there was a timely reminder of the importance of disease surveillance when a new outbreak of shigellosis affecting over a thousand people near Buenos Aires was reported. Alongside the course, instructors and students had the opportunity to analyse the new outbreak data and share their findings with senior Malbran Institute staff, not only enhancing the learning experience, but also showcasing genomic methods as an indispensable tool for real-time tracking of bacterial pathogens. Analysis of the new samples confirmed that the 2010, 2011 and 2016 events

were three independent outbreaks of *S. sonnei*-induced diarrhoea caused by comparatively distantly related organisms. This was unexpected given their proximity and suggested that multiple clones of *S. sonnei* are likely to have been circulating in Argentina for a number of years, several of which have outbreak potential.

To go from bacterial isolates with associated data, to genome sequences and epidemiological reports within five days is no small achievement, and is very much testament to the ambition of the instructors and the enthusiasm and commitment of the students.

The initial publication from this course (the first in the history of the Advanced Courses and Scientific Conferences programme), to which all instructors and students contributed, was submitted on the final afternoon. The paper is available from the preprint server bioRxiv, and the fully peer-reviewed version, including data from the 2016 outbreak produced in collaboration with Malbran Institute staff, has been accepted for publication by the journal Microbial Genomics.

#### 2016 overview



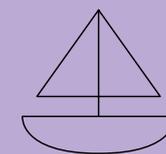
29

courses



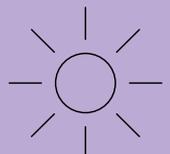
14

conferences



6

overseas courses



2

retreats

# Training the next generation of clinicians in genomic medicine

**Dr Treasa Creavin** Conference Development Officer, Advanced Courses and Scientific Conferences

The provision of genomics and informatics events aimed at clinical and healthcare staff is a core focus of the Advanced Courses and Scientific Conferences programme. With ten courses (laboratory- and discussion-based) targeting clinicians from a range of specialties, the programme is exposing healthcare professionals to the latest genomics research. They are trained in powerful new techniques, enabling them to learn the skills to improve disease prevention, prediction, diagnosis and treatment.

Genomics education in the NHS is at an early stage of development and knowledge of genomics, its applications, and wider implications is limited among non-specialist clinicians. Advanced Courses and Scientific Conferences aim to bridge that gap in knowledge and skills. Currently the programme offers training to a range of healthcare professionals, including microbiologists, virologists, geneticists, pathologists, dermatologists and genetic counsellors.

## For Clinical Geneticists

Fundamentals of Clinical Genomics addresses the aspects of human genetics and genomics that underpin clinical practice. It focuses on the latest scientific, technological and bioinformatics developments with an emphasis on variant interpretation and the use of variant classification and assessment tools. First held in 2008, it's endorsed by the Clinical Genetics Society and the Royal College of Physicians, London, for the professional development of clinical geneticists.

## For Clinical Microbiologists and Virologists

Genomics and Clinical Microbiology combines practical hands-on laboratory and bioinformatics work, focusing on the application of cutting-edge molecular and genomic techniques. The future of microbiological diagnostics and infection epidemiology is centred on rapid molecular testing and the application of sequencing technology. This course equips participants with the skills to process and interpret such data, which is very different from the familiar agar-centric clinical microbiology laboratories. A course for clinical virologists Genomics and Clinical Virology is being introduced in 2018.

## For Genetic Counsellors

Genomic Practice for Genetic Counsellors aims to meet the training needs of genetic counsellors as they upskill in response to the introduction of genomic sequencing in the clinic. This course, supported by Health Education England, focuses on the use of sequencing in relation to diagnostics and has been designed specifically by genetic counsellors for genetic counsellors. Later this year, together with Society and Ethics Research, our first World Congress on Genetic Counselling conference will be held at the Conference Centre, exploring the evidence that guides genetic counselling and the communication of genetics in mainstream medicine.

## For Cancer Pathologists

Molecular Pathology and Diagnosis of Cancer introduces participants to the rapidly-evolving field of the molecular diagnosis of cancer. The course – a joint initiative of the Wellcome Genome Campus and the Royal College of Pathologists Interspecialty Committee on Molecular Pathology – is aimed at trainee pathologists and haematologists. The course includes discussions on next generation sequencing platforms (including the latest developments in genomic technologies) and on the ethical, societal and practical implications of introducing genome-wide genetic analyses to the clinic.

## For Dermatologists

Genomics for Dermatology, first run in 2016, is designed to provide an introduction to genomics and bioinformatics for those working in dermatology and skin biology. The course – endorsed by The British Association of Dermatologists, Dermatology and Genetic Medicine – provides an overview of the current understanding on monogenic and polygenic skin diseases, and cancer genetics as applied to melanoma and non-melanoma skin cancers.

## Masters Programme in Genomic Medicine

Advanced Courses and Scientific Conferences joined forces with the University of Cambridge Institute of Continuing Education, Cambridge University Hospitals, Wellcome Trust Sanger Institute and EMBL-European Bioinformatics Institute to develop and run this MSt course. This initiative, supported by Health Education England, is designed to educate NHS healthcare staff from across the multi-professional team to prepare for the future adoption of genomic technologies and the increasing use of genomic information as part of the diagnostic and treatment pathway.

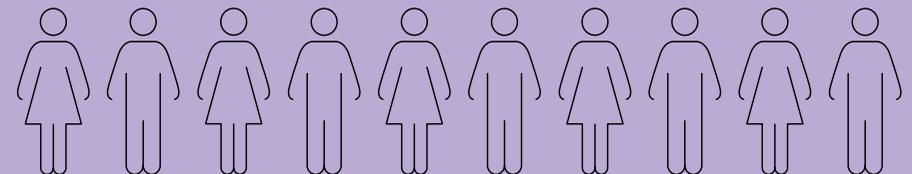
As genomics becomes part of mainstream medicine, and healthcare professionals upskill to face both new opportunities and challenges, Advanced Courses and Scientific Conferences will continue to develop and expand its clinical courses and conferences to meet the training needs of this community.

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2016 overview

## 505 international speakers

Advanced Courses and Scientific Conferences' new policy from 2017 is to have 50% female representation as speakers and in programme committees



## About

Wellcome Genome Campus Advanced Courses and Scientific Conferences fund, develop and deliver training and conferences that span basic research, cutting-edge biomedicine, and the application of genomics in healthcare.

## Team led by Dr Rebecca Twells

Martin Aslett, Jemma Beard, Dr Pamela Black, Dr Treasa Creavin, Lucy Criddle, Dr Anaid Diaz, Laura Hubbard, Dr Darren Hughes, Dr Alice Matimba, Julie Ormond, Nicola Stevens, Sue Taylor, Yvonne Thornton, Kate Waite, Zoey Willard

## Contact

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Visit: [wellcomegenomecampus.org/coursesandconferences](http://wellcomegenomecampus.org/coursesandconferences)  
f @ACSCevents

“The Society and Ethics Research Group are delivering innovative research that will advance our understanding of the impact of genomics on society.”

Dr Christine Patch President of the European Society of Human Genetics

“This is one of the best courses I have been on recently and the standard of lectures was exceptional. I will highly recommend it.”

Delegate Genomic Practice for Genetic Counsellors course 2016

“The work of the Society and Ethics Research group is groundbreaking being both innovative and practical in its approach”

Vivienne Parry OBE Head of Engagement, Genomics England

# “Geno-what?!” Gathering attitudes towards genomics

Dr Anna Middleton Head  
Society and Ethics Research

To deliver Connecting Science’s mission we need to know how to make genomics resonate for people. We need to understand how to start a conversation – and this isn’t easy when non-scientists think they’ve misheard the pronunciation of genome and think we are talking about gnomes (we jest not, this misunderstanding has come up in three independent focus groups we’ve done with members of the public!).

In order to gather societal attitudes towards important issues in genomics, we have been thinking carefully about how to introduce the topic to the public. Our Socialising the Genome project explored how to turn genomics into a more sociable concept, giving the language a face-lift and trying out different ways to reach people with simple messages about genomics. Combining forces with an ex-Saatchi and Saatchi Creative Director, we used social sciences methods to explore different narratives, metaphors and hooks, to start a conversation using six animations. The animations, based on focus group work with various publics, have been used by Genomics England as part of their public engagement work for the 100,000 Genomes Project. We evaluated the animations via an online survey involving more than 2,000 members of the British public. Recently published in The Lancet, this work has explored new and innovative methods to reach people with simple, evidence based and effective messages about genomics.

We have built on this project in our current work called Your DNA, Your Say. This online survey, gathering attitudes towards genomic data sharing, uses nine short films to explain what is happening in the genomics world and why this is in fact relevant to all of us. Through the eyes of a nine-year-old boy, Charlie, the films explain that we all have an online footprint that contains personal data about us, whether this be via our email account, Facebook profile, bank or medical records. Our DNA information may be part of this picture if

we have ever donated blood or had genetic testing before. Such anonymous DNA data sits in databases and is shared around the world, accessed by genetic researchers (both non-profit and for-profit) and health professionals. The Your DNA, Your Say study explores attitudes towards privacy, perceived harms and expectations of control over data. It has been translated into Russian, Polish, French, German, Portuguese, Arabic with other languages on their way – Swedish, Italian, Mandarin, Hindi, Icelandic and Spanish. The Society and Ethics Research group lead this work and facilitate other social scientists around the world to organise their own translations and publish their own findings.

A testimony to the creative and innovative approach taken with the films has been recognised at seven film festivals and the films has been shown to film audiences in London, Florida, New York, Los Angeles and Norway.

In addition to engaging with popular culture our doctoral student has been exploring if and how popular culture could be used as a spring board for meaningful conversations within families about genetics.

As experts on the societal impact of genomics we strongly believe that we need to be out and about, mixing with society and contributing to debate and discussion on the relevance of genomics. And with that in mind we are regular contributors across both traditional and digital media.

specialist nurses since the courses offer the required competencies (as recognised by the Genetic Counsellor Registration Board) to transfer across into genetic counselling practice.

In addition to having expertise in the ethical and social impact of genomics, we have recently added legal expertise to our group. With this in mind we are preparing a project based on the Huntington’s Disease case going through the courts at the moment, where a ‘duty to warn’ relatives of disease and a ‘duty to protect confidentiality’ are being pitched against each other.

The group has also been involved in co-writing the brand new NHS core curriculum for training genomic counsellors in England; and has also co-written position papers for the genetic counselling profession.

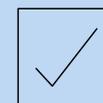
The Society and Ethics Research group are vociferously committed to contributing to research, education and policy through a genetic counsellor lens. The ultimate aim of this work is to support all health professionals delivering genetic information so that they can provide evidence-based care to patients.

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2016 overview



10,000+  
people completed surveys



from 58 countries

on attitudes towards the  
application of genomics.

# Making a difference for patients: translating genomics for genetic counsellors and nurses

Dr Anna Middleton Head  
Society and Ethics Research

One of the strongest influences that guides the direction of the Society and Ethics Research group is the expertise we have in genetic counselling leadership, practice, research, education and policy creation. Genetic counsellors are health professionals who work directly with patients, explaining the meaning of genetic information and helping individuals share this with their relatives. The Society and Ethics Research group is one of the first genetic counsellor-led research groups in the UK.

Given their skills in both science and communication theory, genetic counsellors are very much in demand as genomics is mainstreamed across whole healthcare services. Clinically practicing genetic counsellors are required to up-skill in genomics and implement this into their practice, as well as teach this to their non-genetics focussed colleagues. Genetic counsellors are seeing more patients than ever before and the way they deliver their care is evolving. Together with the Advanced Courses and Scientific Conferences team, the Society and Ethics Research group have responded to the training needs of genetic counsellors and led on the creation of the first genomic practice course in Europe, designed by genetic counsellors, for genetic counsellors and hosted by the Conference Centre. This course was awarded sponsorship from Health Education England and is now seen as the 'go-to' course for experienced genetic counsellors to enhance their genomics knowledge; we now have 150 graduates from the three-day course, and feedback to demonstrate that their learning is being applied to practice. Building on the success of this course, Advanced Courses and Scientific Conferences and Society and Ethics Research will be running the first ever World Congress on Genetic Counselling in October 2017,

a three-day event for up to 300 genetic counsellors from across the world.

Genetic counsellors are but one health professional group navigating the implementation of genomics in healthcare. The nursing profession – the largest single healthcare profession in the world – are also grappling with this. Nurses at every level in the workforce are expected to know at least the basics of heritability and should be able to signpost patients to appropriate services for further testing and investigation. We know, however, that unless there is a co-ordinated approach to tackle nursing curricula, professional accreditation, and protocol implementation, the translation of genomics will not happen fast enough. The Society and Ethics Research group introduced the Global Genomics Nursing Alliance (G2NA) to the Advanced Courses and Scientific Conferences team and contributed to delivering the first G2NA meeting at the Conference Centre. Twenty-nine nurse leaders from 17 countries and seven international professional organisations came together for a three-day retreat to construct a 'roadmap' for accelerating genomics into practice. With connections to both the World Health Organisation and the major nursing professional bodies across the world, the event was incredibly successful in enabling practical thinking about how to seriously and systematically transform nursing practice world-wide. Throughout 2017 and beyond the G2NA will be delivering further on this work. Members of the Society and Ethics Research group have also been working at the coal-face, teaching and helping the next generation of genetic nurses and counsellors to develop their skills. We co-led the creation and delivery of two modules on the University of Cambridge Masters in Genomic Medicine (Counselling Skills for Genomics and Ethical, Legal and Social Issues in Genomics). These courses are available for any health professional to attend, but are most relevant to

Can't figure out genetics?  
Here's a handy guide...

**theguardian**

Researchers say trying  
to teach the public  
about genomes 'is  
proving challenging'

**sky NEWS**

Inside the Ethics Committee  
– Sharing Genetic  
Information

**BBC  
RADIO** 

Do you want to know what  
diseases lie in store?

  
**News**



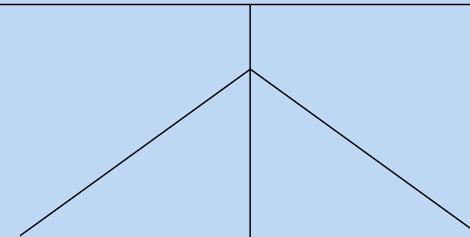
of our Your DNA  
Your Say survey



published in peer  
reviewed journals

35

invited presentations given  
on the social, ethical and legal  
impact of genomics on society  
around the world



#### About

Wellcome Genome Campus Society and Ethics Research uses quantitative and qualitative research methods to investigate the psychological, social and ethical impact of genomics. We are continually asking: 'How are people responding to genomics?'

#### Team led by Dr Anna Middleton

Dr Vicky Chico, Lauren Farley, Dr Katherine Morley, Jonathan Roberts

#### Contact

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[f](#) [t](#) @genomethics

“It is such an easy venue to use and we had loads of compliments about it as being the perfect place to host our event. Last night for the dinner, the team could not have been more accommodating and helpful.”

Event organiser Agri-Tech East

“I’ve worked with hundreds of hotels and venues around the world and it would be amazing if they all had the staff at your venue. [...] I really hope we get to come back again one day and will be highly recommending you to the team here.”

Event organiser TMB

“Your management of our account was fantastic. We certainly felt in safe hands throughout the planning phase and during the conference.”

Event organiser Orion Health

# The challenges and merits of narrowing our target audience

Sophia Tirelli Event Sales Coordinator,  
Conference Centre

For almost 20 years the Wellcome Genome Campus Conference Centre has played host to thousands of events ranging from scientific conferences, courses, retreats, corporate meetings and special occasions.

As the years have passed the Conference Centre has expanded and enhanced both its facilities and the audiences it attracts. A £21million refurbishment funded by Wellcome in 2015 saw the addition of the stunning steel and glass roof and versatile exhibition space, designed to bring together scientists, clinicians, students, and members of the public, spark conversation and encourage networking. The refurbishment brought with it an opportunity to refocus and redefine the audiences we would like to attract, with the intention of concentrating on catering for life science research sector clients, and bringing the Conference Centre in line with the ambition of Connecting Science and the wider Wellcome Genome Campus.

Since October 2015 the Conference Centre has strived to attract new scientific organisations. The new Conference Centre website, launched in December 2016, has been re-designed with our target audience in mind, and includes a new room search function, downloadable brochures and floor plans, image galleries, time-lapse photography, 360° panoramas, and a new promotional video, all designed to support potential clients with their event planning process. Another new feature is an event listing for major conferences taking place at the Conference Centre: this allows clients to further advertise their meetings, and for us to showcase some of the great events we host.

Over the last 18 months we have reviewed client feedback, and one challenge which kept emerging was the lack of an event registration and management service. Such a service would enhance the experience of researchers from both on and off the Campus, and therefore in December 2016 we recruited a dedicated individual to implement an effective new system, which is now up and running.

We're also looking to expand and develop our relationships with key booking agents with relevant client portfolios, to raise our profile as a potential venue for future events. An activity that is supported by our membership of accredited venue networks such as Meet Cambridge.

The change of client focus has been fully embraced by the Conference Centre team. We're committed to our ultimate goal of catering exclusively for the life science research community, and hope to achieve this within the next four years.

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2016 overview



22,043 lunches served





## Enhancing the client experience at the Conference Centre

Gemma Wilkins Conference and Events  
Organiser, Conference Centre

The Conference Centre has recently added an exciting and useful string to its bow, designed to help prospective clients who would like to host an event at the Conference Centre, and also need help organising it.

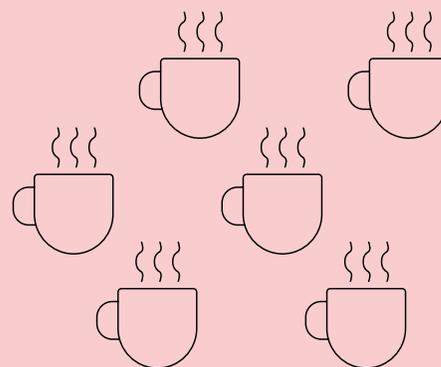
The Event Management Service was created to enable the team to provide clients with a full spectrum of event services, and in December 2016 I joined the Conference Centre Sales team to work on the procurement and implementation of event management software. This enables us to build event websites, take delegate registrations and payment, send communications, and deal with abstract submission and online reviewing.

The first multi-day residential conference – the 27th European Chemoreception Research Organization Congress – for which we're managing registration and abstract submission is now just around the corner in September.

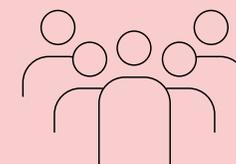
The Conference Centre is now able to offer various packages reflecting the different levels of involvement and support required, from a simple online registration and badge-making service to fully managing a large scale event, or even bespoke solutions. We're also offering an abstract and paper submission service with an online reviewing facility, making it quick and easy to coordinate abstract reviewing by committees, no matter where they are based. This is a unique service which further aligns the Conference Centre offering with its remit to focus on research-orientated scientific business.

The addition of the Event Management Service to our existing world-class conference facilities sets us apart from other venues, and provides a more complete and useful experience for both Campus and external clients alike.

2016 overview



60,152 cups  
of tea or coffee



15,812 Total delegates  
attending events

14,281

bedrooms booked

#### About

Wellcome Genome Campus Conference Centre boasts world-class event and meeting spaces designed for knowledge sharing in the scientific research community.

#### Team led by Linda Prior

Kelly Butler, Rebecca Loffman, Kat Mace, Steve Mungovan, Sophia Tirelli, Nigel Whitham, Gemma Wilkins

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Visit: [wellcomegenomecampus.org/conferencecentre](http://wellcomegenomecampus.org/conferencecentre)

[f](#) [t](#) @WGCCConfCentre

“The animators had immersed themselves in the science; pushing beyond mere ‘illustration’ of process to give the viewer a different perspective, and perhaps an alternate way ‘in’ to the research.”

Visitor Silent Signal exhibition, Cultural Zone

“The course was an amazing opportunity to put practical skills into practice and to work, in a supported environment, with highly talented and skilled staff, to give you a flavour of the latest Lab techniques and their application in this exciting field”

**Delegate** DNA barcoding CPD course 2016

“Just to say a big thank you to you and your team for your hard work on Saturday [at the Big Draw 2016]. We were very pleased with the turn out and the feedback about the activities from those who attended was really positive.”

**Project Leader** Children and Young People’s Participation Service, Cambridge City Council

# Come in, we're open!

Becky Gilmore Exhibition Curator,  
Fran Gale Education Officer, and  
Ken Skeldon Head, Public Engagement

Aspiring to be one of the world's most open research campuses forms a key part of the mission for our dynamic Public Engagement team

Every week of the year we host visits for community, schools and patients groups. 2016 was our busiest year to date, with 55 groups and over 1200 public visitors touring the facilities and engaging with our researchers.

While many of these visitors are driven by a general interest in science, there are specific groups for whom interaction with our research takes on a more personal meaning. For instance, working with Genetic Alliance UK and the Independent Cancer Patient's Voice we brought together cancer patients, survivors, and their families with researchers to explore how genomics is being harnessed to better understand and treat cancers.

Sometimes it is the international dimension of our Campus community that shine through. For instance, during a recent visit by a group of French students our French-speaking researchers stepped up to host a microscopy activity in their native language. Such experiences send out a strong message about our staff community: that they are welcoming, international and inclusive.

**Innovation through partnership is central to some of our most successful initiatives**

As the demand for visits continues to rise, it has been equally important to create space for a more open, spontaneous approach to engagement on Campus. In 2015 we created the Cultural Zone in the Conference Centre, which is an informal space for exploration and discussion of our research and its social and ethical contexts. Our Cultural Zone 'Open Saturday' initiative gives visitors a chance to explore thought-provoking exhibitions such as Parasite, Silent Signal and Stutterer. This helps us cultivate and enrich relationships with our external communities including those right on our doorstep.

Complementing our regular open sessions are events and initiatives created in collaboration. Some of these are extending the breadth of existing high profile regional events, such as the 2016 Cambridge Festival of Ideas. Others are more immersive experiences such as our partnership with the Curwen Print Study Centre where participants created artworks inspired by stem cell research.

**Bringing people closer to our research through hands-on citizen science**

Our DNA Barcoding Project, developed in partnership with the Wildlife Trust and Eden Project took participants on a journey of discovery, beginning with the collection of plant samples and extraction of DNA, through to sequencing and analysis. A Bluebell Day on Campus brought focus to the project, where gardening and wildlife enthusiasts sampled bluebells from the grounds to identify hybrid species. This practical application of genomics to conservation was covered on BBC Radio 4's Today programme and local radio.

A project highlight was our two-day residential Continuing Professional Development course for teachers helping enhance teachers' confidence in running practical activities in the classroom. A further collaboration with Cambridge University Botanical Gardens and the University Technical College Cambridge saw students collect and analyse samples from critically endangered plants, providing new data for the European Nucleotide Archive. In this way, the students are participating in real science – an approach in which we are taking an increasingly leading role.

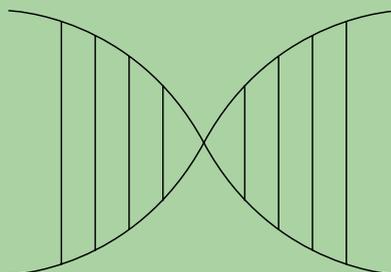
Our message is: Come in, we're open!

While we invest in new engagement zones and more immersive experiences for our visitors, we are more determined than ever to put the Wellcome Genome Campus on the global map for pioneering approaches to connecting people with genomics in all its forms.

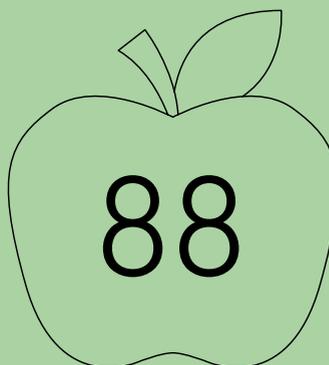
2016 overview



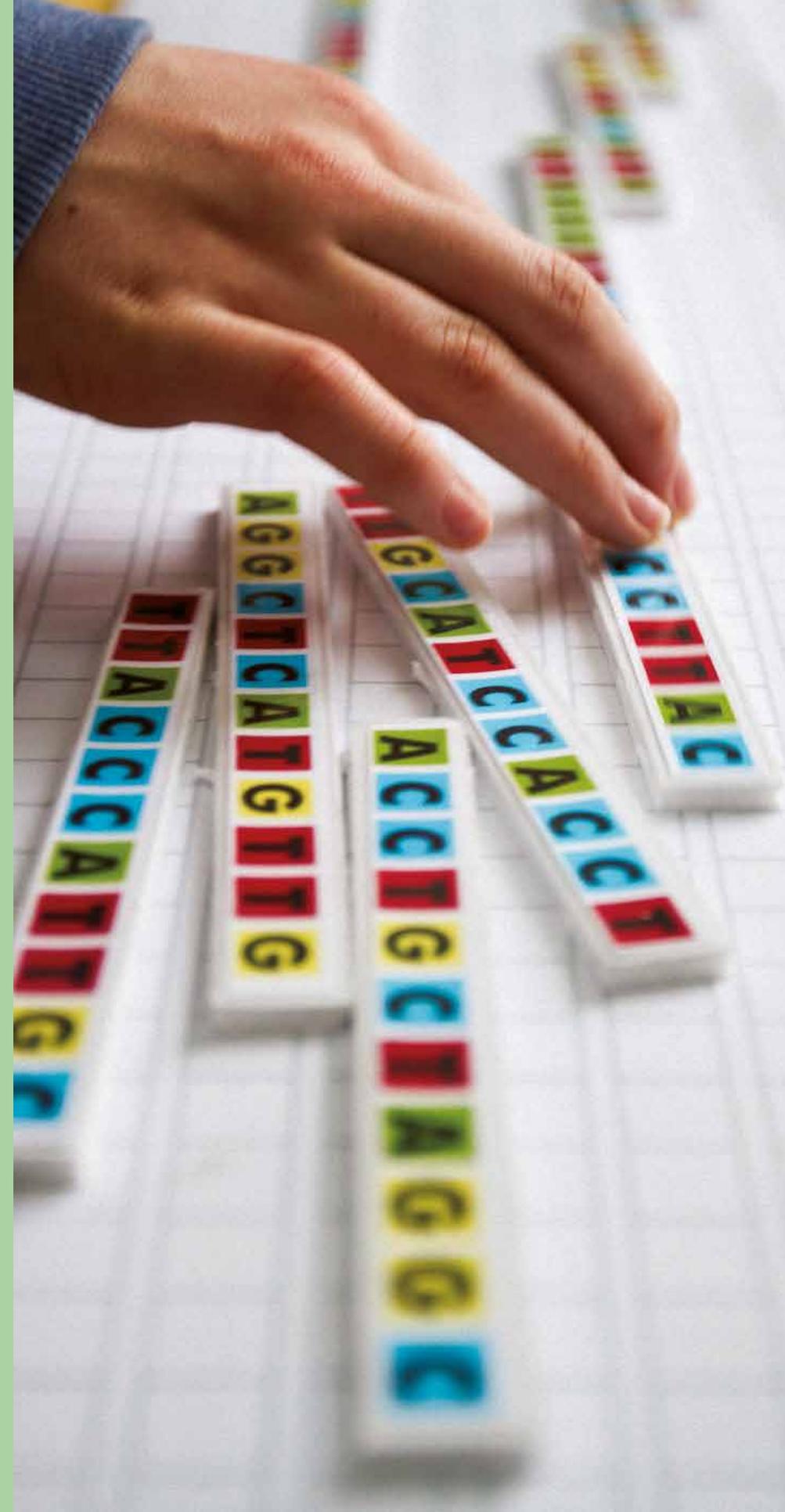
members of staff were involved in our events



4 million visits to yourgenome.org



CPD events for teachers, delivered on and off-site





## Genomics, on the move...

Steve Scott Content Producer and  
Ken Skeldon Head, Public Engagement

### Shifting the comfort zone

Making safe and familiar spaces for audiences is often the first step of successful science engagement. This helps free people up to express their views, ask questions and view scientists in a different light, away from the academic setting. It's this ethos that motivated our Public Engagement team, in partnership with 200 staff across the Campus, to reach out to more than 4,000 people in 2016 across a range of events, from community fairs to major festivals celebrating science, art and culture.

### Conversations at the Cambridge Science Festival

Our largest activity falls, perhaps unsurprisingly, within the UK's biggest national science celebration, British Science Week in March at Cambridge Science Festival. In 2016, the theme was big data, giving a natural platform for our researchers at the European Bioinformatics Institute and Sanger Institute to discuss their pioneering work with students, families and adults. Our 'In.D.N.A. Jones' stand proved a particular hit with family audiences, involving 48 researchers and attracting 1,000 people to get hands-on with DNA. There were also sessions tailored specifically for adults and people with autism.

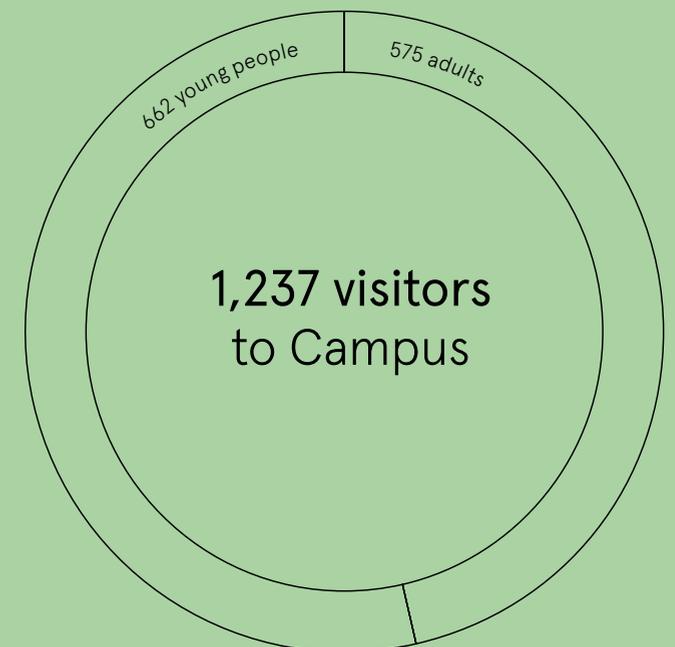
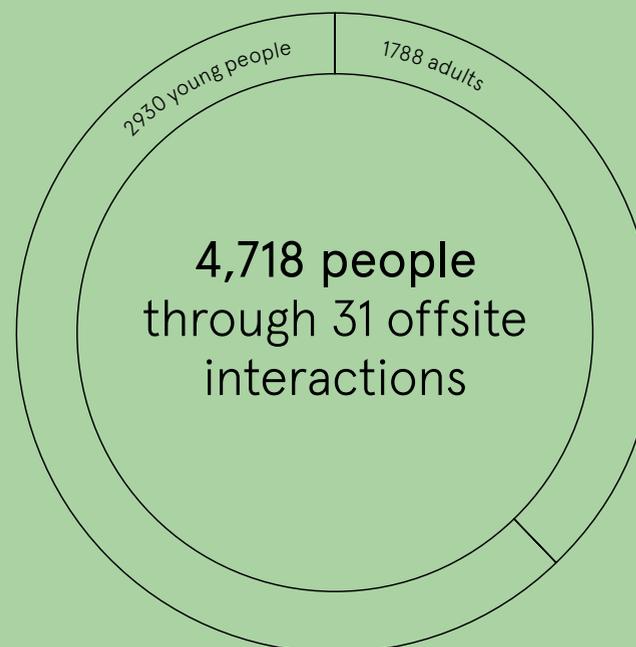
### Connecting with communities

Beyond the major festivals, dozens of Campus staff also support our effort to get out and about and extend our reach into the growing number of community-led festivals and events. In 2016 this included the first dedicated STEM Festival in Peterborough and working with the Cambridge City Council's Children and Young People's Participation Service at their Big Draw Festival event with inner-city communities. We are committed to supporting activities where depth of engagement can flourish. Often these are smaller in scale and focused in theme, where the expertise and values of the Campus can play a unique role.

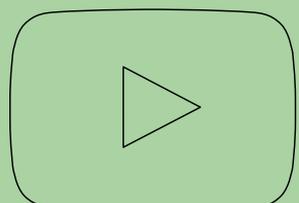
### Extending reach and responding to need

As we move forward, our public engagement – and particularly outreach – is increasingly being driven by community-led partnership and demographic need. Given our location, this is something we must dedicate particular effort towards: with some of UK's highest indices of deprivation found in particular clusters just 35 miles from Campus there is a real opportunity for targeted, aspiration-raising outreach ambition. We strongly believe that our Campus – with its exciting science community and research story – has a unique role to play in stimulating curiosity and building bridges with communities far and wide. We're quite literally taking *genomics on the move*

2016 overview



2,791,876  
minutes of view  
time on YouTube



## About

Through a vibrant range of training, activities, resources and projects, Wellcome Genome Campus Public Engagement enables sharing and discussion of our pioneering science between our staff and students and a diverse external audience.

## Team led by Dr Kenneth Skeldon

Mark Danson, Francesca Gale, Rebecca Gilmore, Laura Boldú Olivares, Dr Steve Scott, Emily Sullivan, Hannah Wilgar

## Contact

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Visit: [wellcomegenomecampus.org/engage](http://wellcomegenomecampus.org/engage)

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Visit: [yourgenome.org](http://yourgenome.org)

  @yourgenome

## Our partners and networks

Association for Science Education

Association of Genetic Nurses and Counsellors

Association of Research Managers and Administrators

Association of Science and Discovery Centres

British Science Association

Cancer Research UK

Cold Spring Harbor Laboratory

College of Medicine, University of Malawi

Department of Clinical Genetics, Addenbrookes Hospital

East of England Genomic Medicine Centre

Elior UK

EMBL Heidelberg

European Bioinformatics Institute (EMBL-EBI)

Genetic Counsellor Registration Board

Genomics England

Global Alliance for Genomics and Health

Global Genomic Nursing Alliance

H3Africa

H3ABioNet

Health Education England

Horizon 2020, European Commission

Institute for Research in Schools

Institute of Hygiene and Tropical Medicine, Uruguay

International Congress of Human Genetics

Interspecialty Committee on Molecular Pathology – Royal College of Pathologists

Kenya Medical Research Institute, Nairobi, Kenya

Mahidol University, Bangkok, Thailand

Meet Cambridge

MRC Unit The Gambia

Museums Association

National Coordinating Centre for Public Engagement

National STEM Learning Network

Nature Genetics

One Nucleus

Oxford University Clinical Research Unit, Vietnam Pan American Health

Organisation (part of WHO)

PulseNet América Latina y el Caribe

Southern African Society for Human Genetics

Transnational Alliance of Genetic Counsellors

UK Stem Cell Bank

University of Cambridge

University of Cape Town

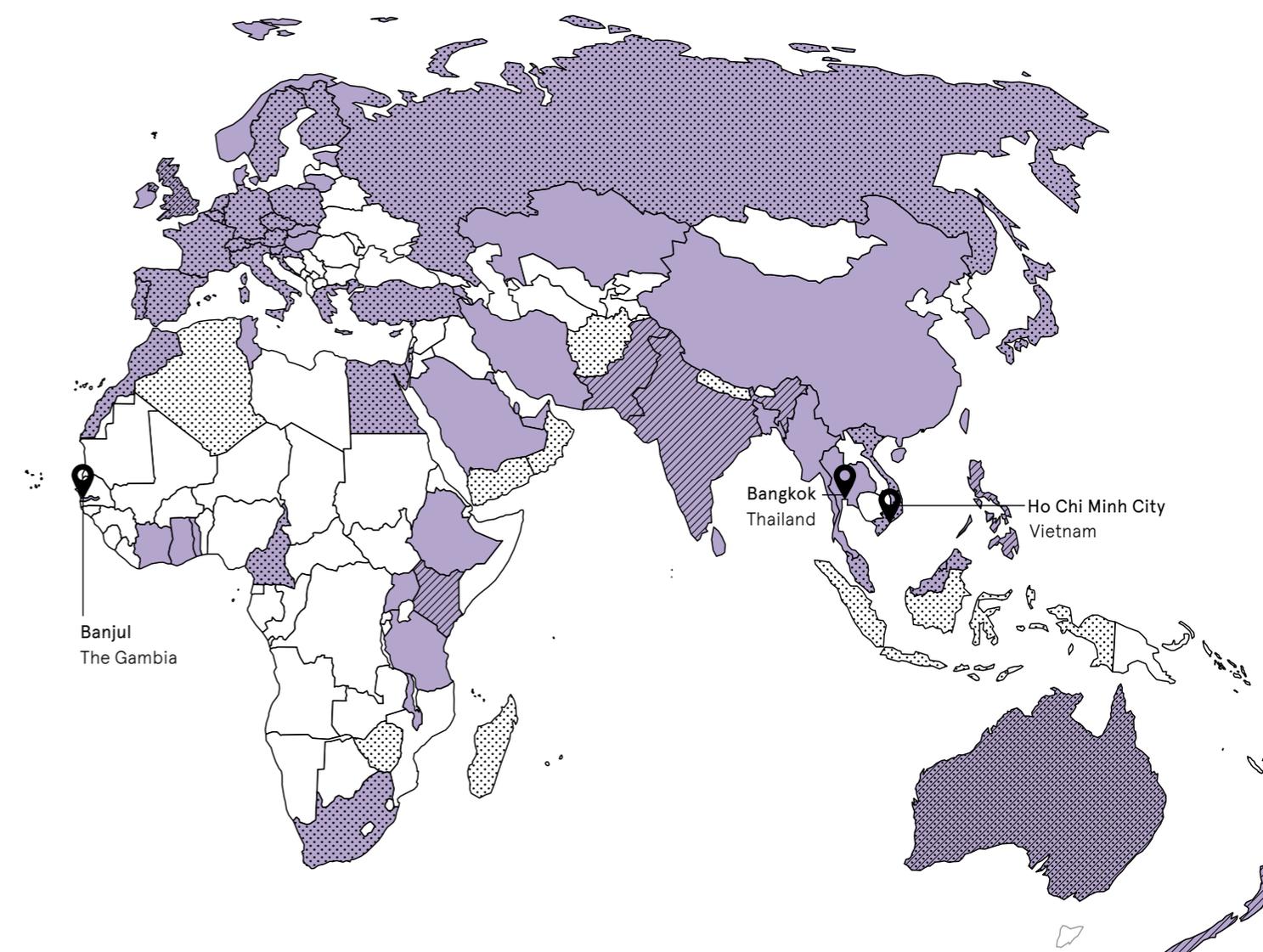
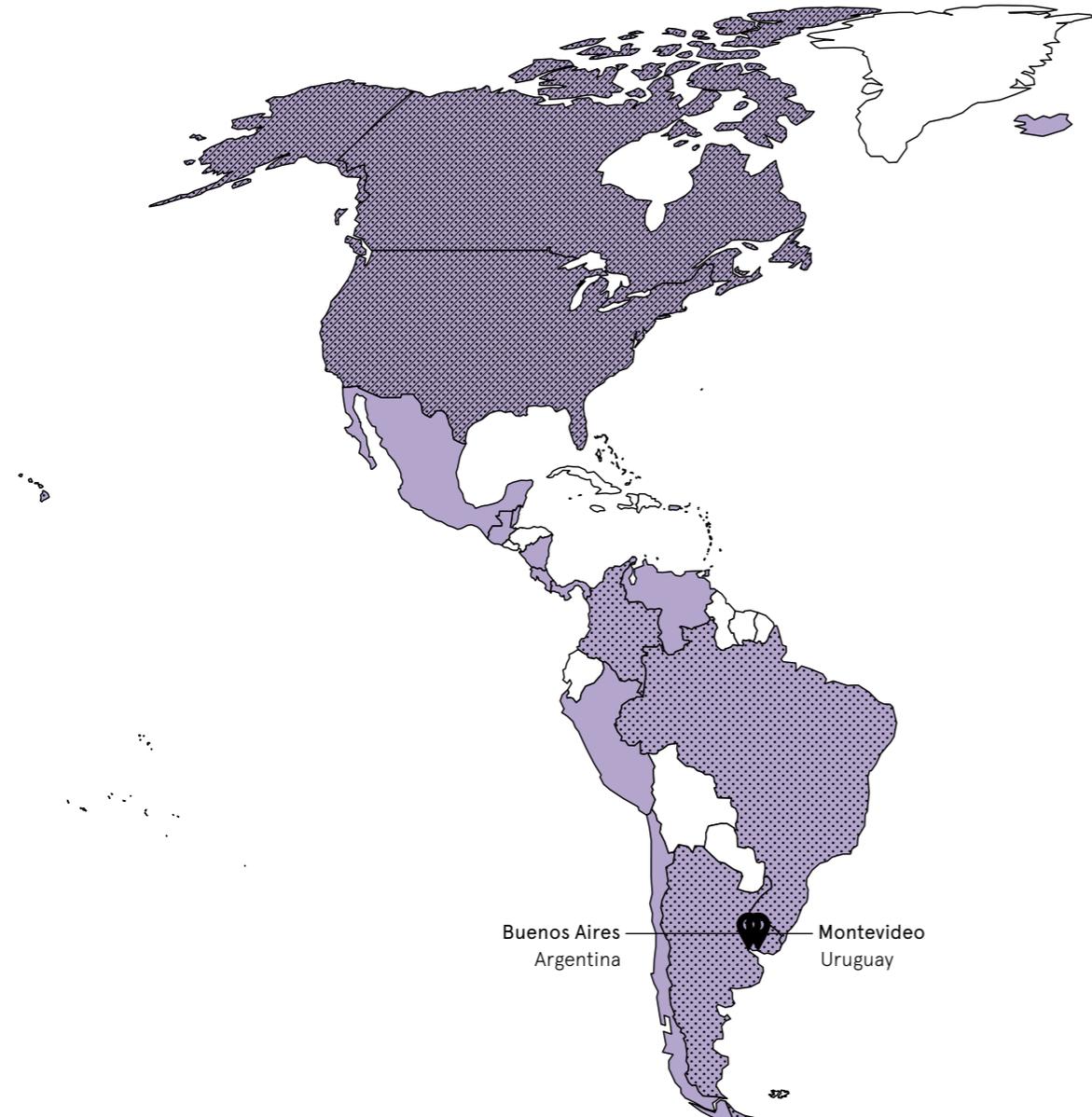
University of Costa Rica

Wellcome

Wellcome Genome Campus

Wellcome Trust Sanger Institute

# Global impact and reach 2016



Advanced Courses and Scientific Conferences delegate and speaker countries, and 📍 Overseas Courses

▨ Public Engagement  
yourgenome.org users across the world (top 10 countries)

◆ Society and Ethics  
Research countries with YourDNAYourSay surveys

**Director's Office**

The Connecting Science Director's Office coordinates strategic projects, manages funding and governance matters, and provides marketing and communications support across the programme.

**Team led by Dr Julian Rayner**

Emily Boldy, Dr Ireena Dutta,  
Katrina Robinson

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