BioBeat'19

50 Movers & Shakers in BioBusiness 2019

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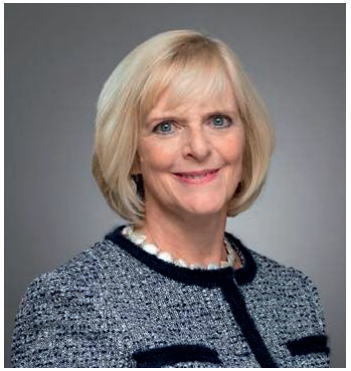
Foreword



Melanie Lee, CEO, LifeArc

Everyone working in life sciences shares a great mission: to discover, develop and deliver valuable solutions that improve health and wellbeing for humanity. The *50 Movers and Shakers in BioBusiness 2019* are outstanding examples of leaders delivering on this mission. There is a breadth of innovative, scientific ideas which are igniting biosciences in Britain and each of these women should be celebrated for leading in this thriving sector.

Leaders in UK bioscience must ensure translating scientific innovation into public and economic benefit remains a priority. There is valuable research emerging from academia, universities and hospitals every day. Sometimes this work needs extra support and momentum to move from the laboratory into a commercial partner for further development.

LifeArc is committed to supporting the UK translation environment with the aim of accelerating this process and bridging the gap between discovery and development. We carefully consider how to most effectively secure the greatest benefit for patients, and we understand that embracing diversity and collaboration can lead to better solutions.

There is little doubt that progress towards promoting female leadership has been made. But importantly, we need to continue building and supporting a diverse talent pool. The 50 women in this report are not only dedicated to their cause but also to building a strong network of specialist experts who produce life-changing solutions. They represent shining examples to others in this sector.

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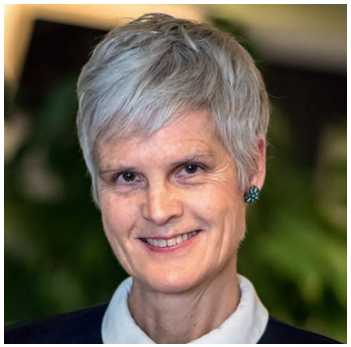
Introduction



Miranda Weston-Smith, Founder, BioBeat

Welcome to the sixth *50 Movers and Shakers in BioBusiness* report showcasing the trailblazers, talent and trendsetters in UK bioscience.

It's a privilege to connect with these incredible leaders, discovering their work and hearing their thoughts on the direction of the industry. Distilling their insights in five key areas – science, finance, collaboration, patient impact and infrastructure – guides our thinking on challenges, opportunities and how to make a difference. The UK shines as a vibrant hub for bioscience, attracting a diverse range of talent and ideas.

Under-explored and potentially huge markets are opening up, such as technologies focussed on women's and children's health. This is also driving a trend towards more flexible ways of working, both in the UK and internationally. Importantly, patients are front and centre. There's an increasing concentration on meaningful outcomes such as symptom relief and quality of life, along with a shift towards long-term health management rather than intervening only when people become unwell.

I thank all the wonderful nominators and reviewers who provided their time and wisdom to make this report such a valuable resource for anyone interested in the future of this fast-growing and exciting field.

Most of all, thanks to you for being part of the BioBeat community and bringing better health to people all over the world.

Miranda Weston-Smith

Acknowledgments

The Reviewers

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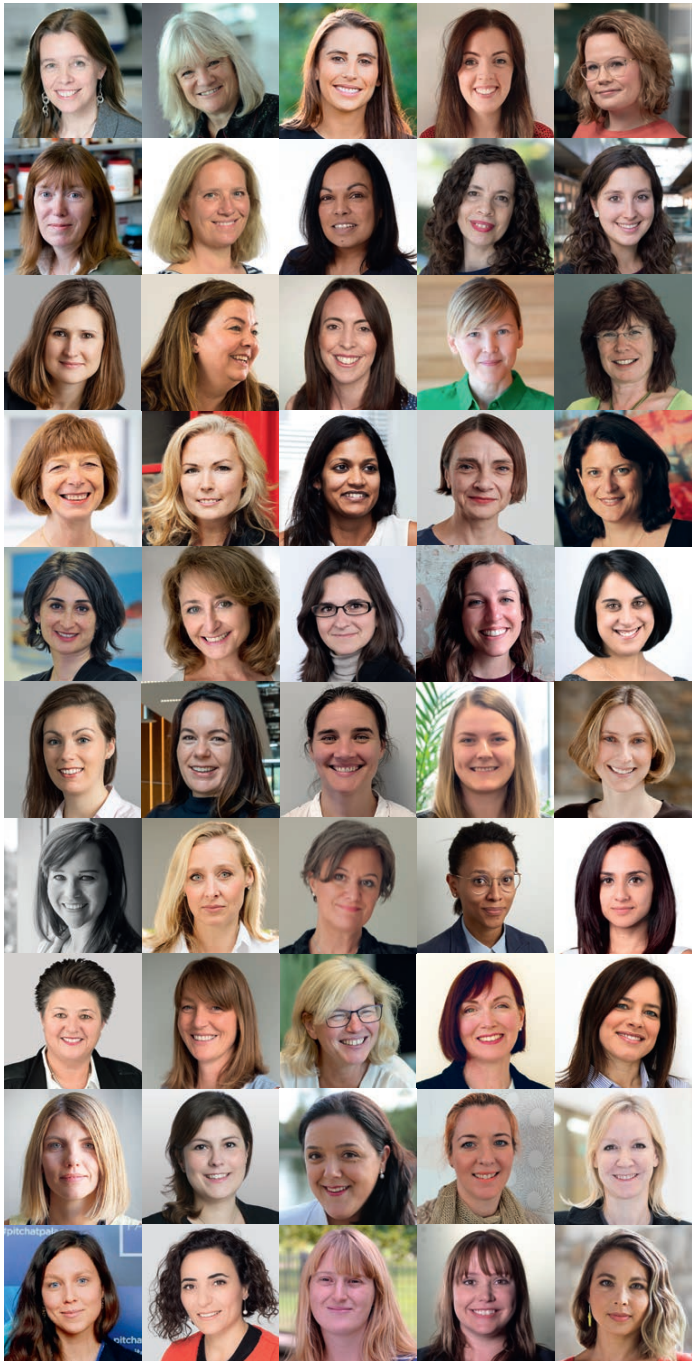
50 Movers and Shakers in BioBusiness 2019



Science

A strong research foundation is the basis for any bioscience business. These expert scientists are turning bright ideas into innovative products.

Caroline Barelle, CEO and Co-founder, Elasmogen

Targeting intractable drug sites
Caroline leads the development of small proteins known as soloMERs to target intractable drug sites in autoimmune and inflammatory diseases as well as cancer. These molecules are 10 times smaller and more robust than conventional antibodies. The company has a portfolio of late stage pre-clinical products and succeeded in raising over £7 million in investment and partnering.

Catherine Beech, CEO and Founder, Exonate

Nimble development of therapies for retinal disease
Catherine is bringing mRNA technologies to treat wet age-related macular degeneration from the lab to the clinic within five years. Small molecule inhibitors of SRPK1 – a novel target originally discovered in the laboratory of Professor David Bates at the University of Nottingham – will enter the clinic in 2020, with potential in other therapeutic areas. Funding for the company has come from angel investors and Wellcome.

Leigh Brody, Executive Director of Platform Strategy, Quell Therapeutics

Technologies for enhancing T cell functionality
Leigh is leading the development of proprietary technologies to grow Quell's regulatory T cell therapy portfolio in autoimmune conditions. Before joining Quell, Leigh was CSO at Desktop Genetics, guiding the company's CRISPR technology development of an algorithm to model genomic data from large-scale screens for widespread use in research and clinical studies.

Margaret Duffy, CSO and Co-founder, Theolytics

Harnessing Darwinian selection to identify cancer-killing viruses
Margaret is using evolutionary principles to select oncolytic viruses based on their ability to kill tumours, rather than modifying existing viruses. The lead candidate, isolated from a large library of viral variants, will be brought forward for clinical development at the end of 2019. Together with her co-founders, Margaret raised £2.5 million in 2017 from Oxford Sciences Innovation.

Sara-Jane Dunn, Scientist, Microsoft Research

Making biology programmable
Sara-Jane's research focuses on biology as computation, spurring life sciences research towards the concept of programming biology. She co-developed and applied software to explore the biological program running inside embryonic stem cells, generating findings that explain and predict how to reprogram cells into an embryonic-like state. Her work is revealing the dynamics of gene activation and uncovering its fragility to genetic perturbations.

Professor Sarah Gilbert, Jenner Institute, University of Oxford

Viral vectors for vaccines
Sarah leads the development of safer vaccines derived from replication deficient adenoviral and poxviral vectors that induce antibody and T cell responses. Current projects include vaccines for MERS, Nipah and Lassa. Sarah is co-founder of Vaccitech, a company developing an influenza vaccine based on her work and that of Professor Adrian Hill at the University of Oxford, which is now in Phase 2b clinical trials.

Uta Griesenbach, National Heart and Lung Institute, Imperial College London

Increasing the uptake of gene therapy
Uta's research focuses on gene therapies for rare lung diseases such as pulmonary alveolar proteinosis and alpha 1 anti-trypsin deficiency. Lack of skills in gene therapies is recognised as a bottleneck for translation of these therapies into the NHS, so Uta is chairing the UK advanced therapies workforce training group to deliver education and training for pharmacists, nurses and other relevant healthcare professionals.

Andrea Haynes, Scientific Director, Experimental Quantitative Pharmacology, GSK

Shifting risk in drug development
Andrea is pioneering the integration of *in vivo* biology, DMPK (drug metabolism and pharmacokinetic) and PKD (pharmacokinetic-pharmacodynamic modelling) for early drug discovery. She is also leading a change in culture to mitigate downstream clinical risks at GSK, steering the implementation of a multi-disciplinary approach to drug discovery through the application of Quantitative Pharmacology principles.

Professor Laura Itzhaki, CSO and Founder, PolyProx Therapeutics

Designing biotherapeutics to destroy faulty proteins
Laura is developing biotherapeutics to harness the cell's internal quality-control machinery. Her new approach shortcuts cell signals to redirect the machinery to dispose of unwanted proteins, such as proteins in cancer cells that cannot be targeted by conventional drugs. Laura heads a research group in the University of Cambridge, Department of Pharmacology and secured £3.4 million seed financing for PolyProx in 2019.

Anna Perdrix-Rosell, CSO and Co-founder, Sixfold Bioscience

Pre-clinical development of RNA self-assembling structures for drug delivery
Anna leads a multidisciplinary team of chemists, biologists and computational scientists that develop RNA self-assembling structures to precisely deliver cell and gene therapeutics. She is a joint inventor of Sixfold's drug delivery technology, which has applications in cancer and rare diseases. Through integrating translational needs into the RNA nanotechnology field, pre-clinical development advanced to *in vivo* experimentation in under a year.

Genomics opens up

Falling costs and longer read DNA sequencing are yielding richer whole-genome data, revealing new insights and bringing mass-market genomic interventions closer to reality.

But as healthcare becomes more personalised, new responsibilities are surfacing. There's a long-needed move away from studying European ancestry populations towards gathering genomic data that is more representative of human diversity. In turn, this is increasing the democratisation of precision medicine and creating a truly global market.

Transcriptomics, proteomics and functional genomics are unlocking the black box between genotype and phenotype, revealing biological information that can't be gathered from simple DNA sequencing. And improvements in tools such as CRISPR allow researchers to dissect pathways, validate targets and identify opportunities for repurposing existing drugs.

Novel techniques are bringing fresh insights into poorly understood but potentially fruitful areas of biology such as protein degradation. There is also great value in seeing how nature has already solved some of these challenges – for example, by applying Darwinian principles to evolve novel biologics, understand the emergence of drug resistance or develop new therapeutic approaches.

Finance

Women who are shaping the sector through strategic analysis and smart investments in some of the boldest and most innovative healthcare developments.

Wendy Britten, CFO, Congenica

Enabling genomic medicine in global healthcare
Wendy has navigated UK, US and Chinese healthcare systems to support Congenica's fast-paced growth. In 2019, she completed its £23 million Series B fundraising, which will underpin further international expansion to embed genomic medicine within global healthcare. This will also allow Congenica to accelerate the augmentation of its software platform beyond rare diseases for wider adoption in routine medicine.

Nicola Broughton, Investment Director, Mercia Technologies

Pulling technologies out of universities
Nicola sharpens the commercial potential of academic technologies needing investment, speeding up a lengthy spin-out process by standardising documents and challenging and improving established procedures. Nicola provides early investment and finds management teams to help accelerate these potential businesses out of the university environment and into the wider world, with recent examples including Medherant, Invizius and MIP Diagnostics.

Cassie Doherty, Investment Director, Parkwalk Advisors

Making execution as important as ideas
Cassie works with companies to challenge the commercial relevance of their science, helping them to create and execute effective strategic, technical and commercial plans. This could include re-setting strategic direction, re-working fundraising plans and building strong management teams. She's supported multiple life science companies that have cumulatively raised over £50 million of investment, including Dynamic Vision Systems, Creavo Medical Technologies and Iksuda.

Julia Hawkins, Partner, LocalGlobe

Redefining what it means to be a health tech investor
Julia's investments focus on the convergence of life science and technology, building the ecosystem and finding new company formation dynamics, improving market access via the NHS and devising new models for working with academia. Since 2018, Julia has led the expansion of LocalGlobe's health portfolio up to ten health tech companies spanning consumer to computational biology.

Sakura Holloway, Partner, StartCodon

Simplifying the path for entrepreneurs
Sakura has developed the accelerator at Start Codon, offering significant seed capital and active mentoring to streamline the path for pitching to Series A life science investors. In just four months of operation she's developed a selection process to guide companies and emerging entrepreneurs through the requirements for the accelerator, and has performed diligence on more than 100 companies so far.

Ruth McKernan, Venture Partner, Dementia Discovery Fund

Investing in therapeutics for dementia
With one million British people expected to be living with dementia by 2025, wise investments are needed to develop better treatments. As a trustee for Alzheimer's Research UK and Venture Partner for the Dementia Discovery Fund, Ruth is committed to creating and growing new therapeutics companies drawn from UK science. She co-founded two in 2019 with seed investments of £12 million and continues to build more.

Zoe Peden, Investment Manager, Ananda Ventures

Bringing diversity into entrepreneurial teams
Zoe is pushing for greater diversity in startup founders and the team recruited around them in order to achieve their goals. Zoe has provided diverse candidates in engineering, marketing and product as well as at board level. She supported IESO Digital Health with digital marketing experts and data science leads, and found product strategists with expertise in B2B marketplaces for Repositive.

Tara Raveendran, Head of Life Sciences Research, Shore Capital

Aligning the expectations of biotech companies with UK capital markets
Tara works with biotech companies to help them understand the UK investor perspective and structure an effective capital markets strategy. This requires aligning management expectations with the context of UK capital markets, which is as relevant as sound underlying science. Identifying local investors and delivering the appropriate narrative, she refines corporate messaging with tangible and realistic milestones.

Pauline Stasiak, Investment Principal, Life Arc Seed Fund

Financing companies developing novel antibiotics to overcome resistance
Pauline heads Life Arc's Seed Fund drive to combat anti-microbial resistance – a global health threat which could potentially lead to 10 million premature deaths by 2050. She secured an investment of £1 million from the Fund for the Anti-Microbial Resistance Centre to support their development of new drugs to treat drug-resistant microbial infections such as *Pseudomonas aeruginosa*.

Jane Whitrow, VP Business Operations, Freeline Therapeutics

Managing the scale up of a fast-growing gene therapy business
Jane is leading Freeline's rapid global growth in response to the vision of their major investor, Syncona. She works at both a strategic and detailed level in the face of rapidly-changing needs, pacing the growth of science, manufacturing and clinical work to ensure that the company has the facilities and locations required for success.

Bright ideas, big expectations

Commercialisation is not a dirty word – it's the way that bright ideas come to market and make a difference to patients' lives. As ever, more could be done to connect industry and academic talent, embedding a culture of entrepreneurship in universities and supporting founders on both the business and scientific sides to increase the chances of success. This is something that is being addressed by the growing number of accelerators and other organisations connecting scientists with investors and equipping them with the tools they need for success.

On the positive side, there is money on the table for nimble start-ups that can demonstrate efficient testing and translation of new ideas from bench to bedside. There are also moves towards alternative models of reimbursement for essential but low-return therapies such as novel antimicrobials.

Fresh talent is steadily flowing into the sector – often with many years' experience in science or business – bringing new and more diverse views and ideas. This is reflected in the growing trend towards investing in previously side-lined but potentially large markets: women's health is one of the most rapidly developing areas, particularly technologies related to infertility and the menopause, as well as child health.

Collaboration

Collaborative working lies at the heart of any successful business. By forging strong relationships between people and organisations, these women are shaping the future of the bioscience industry.

Maryam Atakhorrami, COO, London-Health Data Research UK

Persuading universities to collaborate on health data research
Maryam is changing the competitive culture of health data research in academia to work in unison. Leading a strategic partnership of five London universities, she has shaped multimillion-pound investment into nine interdependent programmes in personalised medicine, better clinical trials and applied analytics that improve public health and support London's ecosystem for innovation in health data research.

Veronique Bouchet, CMO, RowAnalytics

Accelerating drug discovery and precision medicine using data
Veronique is steering RowAnalytics' conversion from software sales to data led drug discovery and precision medicine, creating a portfolio of targets in a range of complex diseases in under a year. Through collaborations with King's College London and Sheffield Institute for Translational Neuroscience, five novel Amyotrophic Lateral Sclerosis targets have been identified and advanced to *in vitro* models for validation.

Michale Bouskila-Chubb, Head of Business Development, Healx

New deals for artificial intelligence-led drug discovery
As artificial intelligence and machine learning emerge as new approaches to drug discovery, there are challenges. Establishing trust with biologists and overcoming completely new contractual issues around data use and IP, Michale closed Healx's first pharma deals, shaping new contractual standards for the industry. Michale also developed Healx's business model for two investment rounds totalling $10 million and $50 million.

Rebecca Farn, Mechanical Engineering Lead, BIOS Health

Collaborating with users to build a 'USB for the body'
Working with medical professionals and users, Rebecca and her team are developing and testing the hardware components for a bi-directional neural interface for upper-limb amputees, giving them the ability to control a compatible prosthetic limb via their own nervous system. She is aiming to establish this technology as an open standard connection to the body for others to adopt.

Nadia Gopichandran, CEO and Co-founder, Ostara Biomedical

Collaboratively developing products to improve fertility
Nadia has raised over £3 million to exploit IP that improves embryo implantation through immunological enhancement. She is developing products targeting three key sectors in parallel; breeding transgenic rodents, cattle productivity and human assisted conception. Nadia has initiated and managed this collaborative development by bringing together Ostara's team with the University of Leeds, Envigo, commercial partners and clinics.

Rebecca Kinsley, COO and Co-founder, DIOSynVax

Collaboration to change the way vaccines are made
Rebecca has initiated collaborations for DIOSynVax's computational biology and high-throughput immunological screening processes for next generation vaccines, using novel algorithms that improve the breadth of protection against multiple viruses. She secured partnerships with industry and universities, developed the company's business plans and helped to raise investment of £2.25 million from Innovate UK, Cambridge Enterprise and angel investors.

Abigail Lazzerine, Director of Business Development - Commercial Partnerships, Abcam

Collaborating to bring antibodies and industry closer together
Abigail is working to transform Abcam's approach to how it works with biopharma. Understanding that collaboration is key across the industry, she is influencing a disease-led focus for in-house development and instigating partnerships with pharmaceutical organisations and patient-led initiatives. Over the last year, Abigail also led the in-licensing group, increasing engagement between universities and Abcam to bring in 40% more antibodies of industry interest.

Felicity Sartain, Chief Operating Officer and Co-founder, Closed Loop Medicine

Creating closed-loop models of care
Felicity co-founded Close Loop Medicine to combine proven drug treatments with digital therapeutics. The approach uses data and insights about how a patient is responding to treatment to tailor drug and non-drug therapy, generating best possible outcomes with minimal workload for the clinician. Felicity is responsible for operations and led a successful application to Innovate UK, securing £1.3 million for the company's hypertension clinical programme.

Hannah Thompson, Chief of Product and People, Cambridge Cancer Genomics

Simplifying software for monitoring cancer patients
Rather than focusing on IT, Hannah uses a communication-led approach to bring together cancer patients and oncologists for the development of an artificial intelligence platform for treatment monitoring. She helped secure the first industry access to data from Genomics England's 100,000 Genomes project to develop a tracking product for immunotherapy treatment, and her approach is generating pre-Series A revenue and adoption of the technology by genomic labs and clinics.

Anna Williamson, Head, Cambridge Innovation Hub, Roche Pharma Partnering

Taking early-stage risks
Anna is galvanising Roche and Genentech to invest in early-stage science to develop breakthrough medicines. Anna helped implement collaborations for Genentech in novel paradigms for personalised healthcare including Adaptive Biotechnologies, BioNTech and Microbiotica. She also led Genentech's first investment in a healthcare accelerator, providing founding investment for Cambridge-based Start Codon.

Synergy and trust

We are now on the cusp of a true synergy between the *in vivo* and *in silico* worlds of biomedical research. Combined advances in artificial intelligence, machine learning, genomics and big data have created a tipping point, rapidly accelerating the pace and scale of innovation.

Yet with this transformation comes significant tensions. There is still a certain amount of scepticism and lack of trust around digital technology, which can be overcome by creating understanding and forging connections between wet and dry biology. Health and bioscience companies are either embracing this new world or being edged out by incoming tech giants.

Organisations at the front of this wave are moving towards a digital-first policy, prioritising data gathering and analysis before heading into the lab. As well as developing new products and therapies based on biodata, there are opportunities for creating platforms and systems that sit within the full stack of digital biology.

Ever greater global interconnectedness and communication tools are enabling remote collaborations and allowing companies to break free of geographical constraints. At the same time, novel data storage and access platforms help to ensure security and compliance with international regulations.

Patient Impact

By turning bright ideas into clinical advances and securing access to healthcare innovations, these women are transforming patients' lives.

Kate Bache, Marketing Director and Co-founder, Health & Her

Using technology to accelerate understanding of menopausal health
Kate is cofounder of Health & Her, a digital platform for women experiencing menopause. Used by tens of thousands of women, the online resource provides advice, products and a symptom tool which enables users to tailor support to their individual needs. The data generated by the tool is also accelerating understanding of menopausal health.

Brigette Bard, CEO and Founder, BioSure

Self-testing for HIV
Driven by a desire to normalise conversations around HIV, Brigette has launched an antibody-based HIV self-test using a pinprick of blood. The test has three simple steps, is over 97.7% accurate in detecting antibodies from 4 weeks of exposure and results are available in 15 minutes. CE marked, the test is also approved and available in South Africa, Kenya and Brazil.

Giovanna Forte, CEO and Founder, Forte Medical

Designing accurate urine collection
Together with her clinician brother, Giovanna designed Peezy Midstream to collect reliable urine samples for accurate diagnostic analysis. Re-tests of urine costs the NHS £80 million every year and contamination rates can reach 70%. Peezy is available on prescription and is used in hospitals and antenatal clinics in the UK and US. Giovanna is also collaborating with Surrey University to identify biomarkers for prostate cancer detection.

Letizia Gionfrida, CEO and Founder, Arthronica

Remote monitoring of arthritis
Letizia founded Arthronica in 2018 to monitor chronic arthritis remotely and assess the disease in clinical trials. The system uses a camera on a laptop combined with software to measure mobility, functionality and swelling of joints. Letizia wrote the software during her PhD and has secured over £500k of grants and pre-seed capital. Trials are taking place at Imperial College Healthcare, King's College Hospital and Leeds NHS Trusts.

Rabia Khan, Chief of Translational Medicine, Sensyne Health

Using routine clinical data to improve trial design
Rabia leads the development of machine learning methods applied to routinely collected clinical data to improve drug discovery and development. The team develops and applies novel artificial intelligence methodologies to ethically sourced anonymised patient data from Sensyne Health's NHS partner Trusts. This analysis delivers insights such as patient stratification to improve clinical trials or virtual trials to predict patient outcomes.

Anna Maxwell, CEO and Founder, Maxwellia

Empowering patients through over-the-counter medicines
Anna is widening access to medicines by building a pipeline of new consumer healthcare brands to convert prescription medicines into versions that can be bought over the counter in a pharmacy. Working with regulators and pharma companies, Anna and her team have raised £1.5 million and the first products – initially focussed on women's health – will be launched in 2020.

Sophie Papa, Clinical Reader and Honorary Consultant Oncologist, Guy's and St Thomas' NHS Trust

Bringing complex immune therapies to the clinic for solid cancers
Sophie is researching and trialling cell based immune therapies for solid cancers. Together with King's Health Partners, she is delivering a first-in-human CAR-T cell trial for head and neck cancer as part of a portfolio of solid tumour cell therapy trials. These complex technologies need multidisciplinary co-operation, which Sophie enables through discovery science, early phase trials and infrastructure optimisation within UK academia and the NHS.

Jane Robertson, Chief Medical Officer, Achilles Therapeutics

Flexible trial designs for clonal neoantigen T cell (cNeT) products
Jane is designing and delivering two-stage clinical trials of tumour infiltrating lymphocytes to target clonal neoantigens. These tumour specific proteins, arising from the earliest mutations in cancer, are present in all the cells of a tumour but not normal cells. The treatment requires a surgical biopsy and standard treatment, followed by administration of cNeT cells. Patients with lung cancer and melanoma will receive cNeTs in UK clinical trials in 2019.

Jane Theaker, CEO, Kinomica

Making proteomics part of clinical trials
Jane's vision is to see a second revolution in personalised medicine arising from the application of machine learning and cell signal profiling to drug discovery and development. Jane and her team secured £1 million from Innovate UK and a private equity funding round to verify the benefits of their approach to stratify AML (Acute Myeloid Leukaemia) patients for treatment.

Cyndi Williams, CEO and Co-founder, Quin

Turning human experience into new diabetes knowledge
Cyndi co-founded Quin to help people with diabetes who take insulin make the best possible self-care decisions. She is leading the development of a mobile medical app that leverages people's knowledge and daily experience to create machine learning algorithms for personalised self-care guidance and new diabetes research. The company has raised £2 million in angel funding and Innovate UK grants and trials will start in early 2020.

Real life medicine

The reality of patients' experiences is coming to the fore – understanding how people behave in real life as opposed to the artificially constrained conditions of a clinical trial. Outcomes are focusing on making a real difference to symptoms and quality of life, as well as the underlying biology.

Today's online generation expects accessibility, interaction and choice, and rejects medical paternalism. Consultation and engagement, online portals and apps, and remote-monitoring technologies are all helping to turn the one-way journey from bench to bedside into a collaborative loop.

This is also driving a movement towards ongoing monitoring throughout life, maintaining health and controlling symptoms. Wearables and apps have an important part to play both in clinical trials and products, providing continuous health and symptom monitoring in areas such as fertility, blood sugar, kidney function, mood and mobility.

Increasing cost pressures on health services and the rapid growth in online medical and pharmacy services are forcing disruptive changes. One prime example is the growing number of drugs switching from prescription-only to over-the-counter sales.

Infrastructure

It's a long journey from a bright idea in the boardroom to the marketplace. Supportive infrastructure development is essential for growing capacity and sustainability for the biotech sector.

Tamsin Berry, Director, Office for Life Sciences, Departments for BEIS and H&SC

Leading the delivery of the Life Sciences Industrial Strategy
Tamsin is leading the Government's ambition to create three new industries in life sciences in the fields of early detection of disease, digital and artificial intelligence-based healthcare, and advanced therapies. She is also overseeing the implementation of the two life sciences Sector Deals in which Government has invested in excess of £500 million in new projects and in turn leveraged over £2 billion of investment from industry and charities.

Sarah Cowlishaw, Partner, Covington & Burling

Advancing legal thinking for digital health
Sarah advises on legal issues presented by digital health technologies including artificial intelligence. She helps companies navigate regulatory frameworks while balancing challenges presented by the pace of technological change over legislative developments. Her practice encompasses both regulatory and commercial law in the digital health sector, providing strategic and practical solutions to bring innovative digital health technologies to market.

Cristina De Juan, CEO and Founder, IMT Innovation

Bringing digital technologies to pharma
Cristina is bringing patients' needs to pharma via digital health technologies. Her work has resulted in the development of an Alexa-like health assistant to support patients with cancer at home, a smart-mirror to monitor patients remotely, and the deployment of wearables to patients with heart disease. Cristina has also set up the first digital health academy in the world.

Lucy Foley, Business Unit Director, Centre for Process Innovation

Supporting the manufacturing of biologics
Lucy is leading the provision of tools to UK academic and industry researchers to drive process innovations for biologic medicines. She initiated the establishment of the Centre's National Biologics Manufacturing Centre in Darlington, attracting £38 million in investment. Since the Centre opened in 2015, it has helped more than 100 partners translate their innovations with open access facilities and expertise.

Sally Ann Forsyth, CEO, Stevenage Bioscience Catalyst

Leading the growth of Europe's largest cell and gene therapy cluster
Sally Ann has created an innovation ecosystem across the GSK Stevenage Campus, now home to the largest cell and gene therapy cluster in Europe. Since joining the Catalyst in 2017, Sally Ann has delivered access to the scientific, business and financial support that start-ups need to boost growth and reduce risk. This has resulted in companies in the Catalyst raising more than £1 billion over the last year, with space on campus planned to double.

Charlotte Guzzo, COO and Co-founder, Sano Genetics

Championing transparency in genomics data
Charlotte co-founded Sano Genetics in 2017 to put trust into genomic data sharing, building a software platform that allows people to access genomic data alongside cutting-edge research. Sano has since acquired thousands of users and struck key partnerships with top universities and biotech companies. Charlotte started working on Sano while studying for her PhD at the Wellcome Sanger Institute.

Mira Kassouf, President and Co-founder, Innovation Forum Oxford

Breaking silos in life sciences with entrepreneurship
Mira created ACE Saturdays, a life science entrepreneurial training programme. ACE has attracted and upskilled over 200 academic and non-academic life scientists and allowed exchange of knowledge and tools with the innovation ecosystem. Mira also initiated the Health and Life Sciences Researcher Strategy Consultancy, now adopted by the University of Oxford Careers Service. Mira is a Senior Post Doc in the University of Oxford.

Kim Judge, Senior Staff Scientist, Wellcome Sanger Institute

Taking the mystery out of DNA sequencing
Kim specialises in developing DNA sequencing infrastructure, creating Sequencing in a Suitcase to bring sequencing technology directly to underserved schools and community audiences. The project has now trained forty scientists in STEM outreach and runs in in five countries. She also established the annual Kettering Genomic Science event, attracting one hundred young adults in the first year.

Anna Outhwaite, Head, ATTC Network Coordination, Cell and Gene Therapy Catapult

Shaping clinical programmes for cell and gene therapy
Anna designed and rolled out a clinical programme to expand the take-up of advanced therapy products by patients in the UK, increasing clinical trials in participating NHS trusts up to fivefold in the last year. Areas of focus include standardisation of apheresis, training for nurses and pharmacists, implementing innovative reimbursement models and other initiatives to improve patients' lives.

Becky Sage, CEO, Interactive Scientific

Making the invisible visible for scientific advancement
Becky leads the commercialisation of Interactive's molecular visualisation platform. The platform combines cloud infrastructure and immersive technology to render real-time, interactive 3D molecular visualisations which enable researchers to identify features within potential drug compounds and physically manipulate simulations, such as applying forces. 45 of the world's leading research organisations used the platform in 2018.

Next-generation working

Entrepreneurs are challenging the traditional macho start-up culture and exploring new ways of working, establishing virtual companies based on long-distance and flexible working.

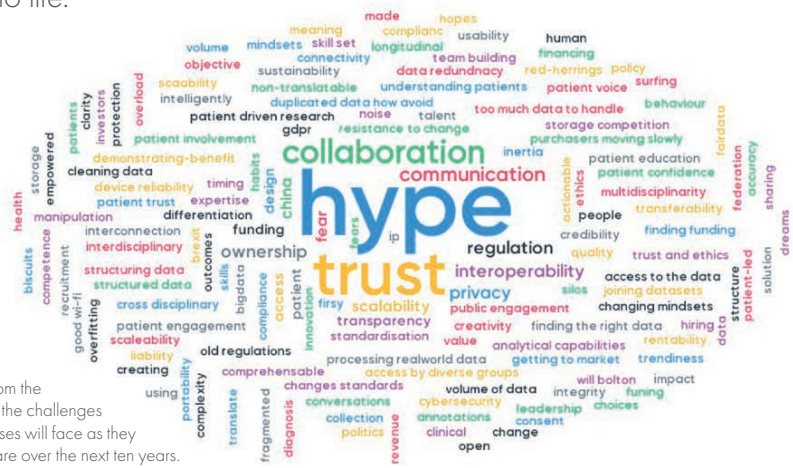
Taking the lead from the tech sector, some organisations are choosing to bring in contractors and small agencies rather than recruiting entirely in-house. From research and data analysis to communications and human resources, there are benefits to be gained both in terms of affordable access to expertise and the capacity to quickly scale or shrink as required.

New digital tools for collaboration, data visualisation and communication continue to enable rapid growth, particularly those built on open-source software. However, there are still issues when it comes to persuading hardware, applications and platforms to speak the same language. In response, there is a growing trend towards ensuring interoperability and platform-neutral technologies.

Finally, there's increasing recognition of the need to grow the next generation of bioscience entrepreneurs, reaching children with activities that focus on innovation and industry outside the conventional STEM curriculum and engaging them with the problems that they are keen to solve for their future.

BioBeat18 Summit: Disrupting biodata healthcare

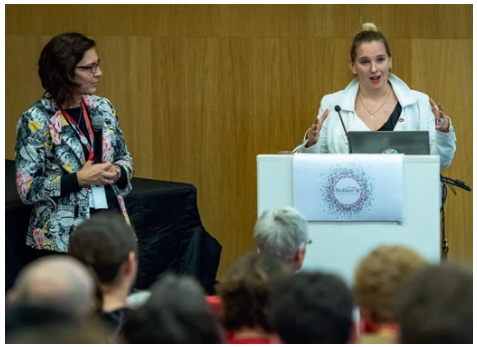
Scientists, innovators, entrepreneurs and investors gathered at the Wellcome Genome Campus in Cambridge to discuss opportunities for bringing disruptive biodata ideas to life.

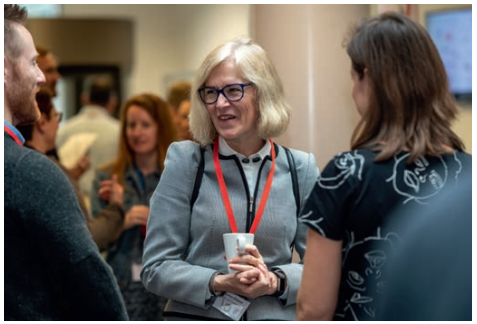


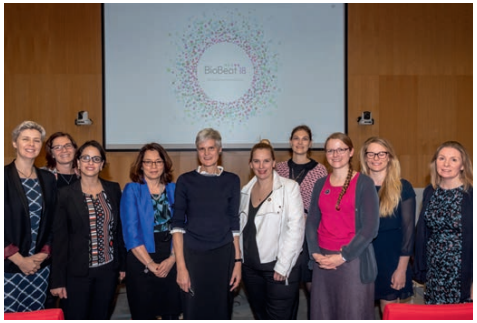
Word cloud generated from the audience's suggestions of the challenges they think biodata businesses will face as they strive to transform healthcare over the next ten years.

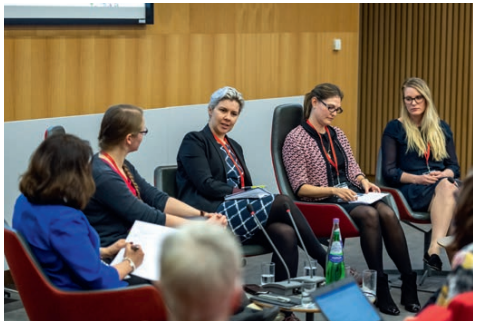
"We need to do much better at collecting data from trials – we might not change whether a drug works, but we're making it more likely to get a definitive yes or no."

Elin Haf Davies, CEO and Founder, Aparito









"Nearly half of all new therapies fail in Phase 3 testing, at a cost of millions of dollars, mainly due to a lack of efficacy. How do we pick drugs that are more likely to succeed?"

Maya Ghoussaini, Genetic Analysis Team Leader, Open Targets, Wellcome Sanger Institute

Partners

Appleyard Lees

We are delighted to sponsor BioBeat19 and celebrate the achievements of female life sciences innovators. Appleyard Lees is committed to supporting women, and other under-represented groups, in the STEM professions. With over 50 patent and trademark attorneys and litigators, Appleyard Lees is a leading intellectual property law firm. Who we are, and what we do – and but also how we do it – makes us distinctive. We offer broad sector, industry and commercial knowledge, enabling us to respond to client requirements in an efficient, agile way.

COVINGTON

Covington is pleased to continue its support of BioBeat and to sponsor BioBeat19.

As a law firm with one of the world's largest and most comprehensive life sciences industry-focussed practices, and a proven commitment to diversity, Covington supports BioBeat's recognition of the women who help make the UK's life sciences sector such a vibrant industry.

Entrepreneurship Centre – University of Cambridge Judge Business School

Cambridge Judge Entrepreneurship Centre has been a keen supporter and partner of BioBeat since its creation. BioBeat has gained a reputation as a platform for pioneering discussions on biotech innovation and business challenges. The *Movers and Shakers* report shows the breadth of skills, experience and innovation of those making an impact.

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Gender parity is established in the early stages of STEM related careers but there is still an unacceptable gap at senior levels. GSK is committed to addressing this issue by developing, promoting and retaining women at every level of the organisation – globally. In order to support this goal it is vital that women building careers in STEM have inspirational and authentic role models. BioBeat's report demonstrates a wealth of female talent who are transforming the future of healthcare. These women are the ones to watch!

Innovation FORUM

The BioBeat Movers and Shakers report is a celebration of 50 individuals dedicated to changing science, entrepreneurship and business. The goals of BioBeat strongly align with those of the Innovation Forum which are to empower and connect industry leaders, entrepreneurs, academics and investors to further strengthen the life sciences sector. As a network and an accelerator for early-stage companies, the Innovation Forum is a strong advocate of celebrating female role models to advance diversity within the healthcare industry.

NAKEDIDEAS

Naked Ideas is proud to support BioBeat19 to further advance awareness around the importance of cell and gene therapy in today's ever-changing biotech industry. New ideas are complex by their very nature and it takes a special approach to cut through the clutter, engage people, change habits and create new expectations. For the last 16 years, Naked Ideas have helped their clients sharpen up the way their ideas are presented and helped them to communicate effectively to the people that matter.

one nucleus – The Business Catalyst for Life Sciences

One Nucleus is a not-for-profit life sciences membership organisation and proud partner of BioBeat19. We support Europe's largest life science cluster encompassing the London-Cambridge-East of England region via knowledge transfer, connectivity, inward investment and growth.

Stevenage Bioscience Catalyst

Stevenage Bioscience Catalyst (SBC) is a leading location for companies to develop and commercialise cutting edge therapeutics and has the largest cluster of cell and gene companies in Europe. The campus is home to major organisations such as GSK, the Cell & Gene Manufacturing Catapult, LifeArc and GE labs alongside a vibrant ecosystem of academics and start-up companies. Located within the golden triangle and the academic centres of London, Cambridge and Oxford, SBC is ideally positioned for the translation and scale-up of cutting-edge innovation.

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