A Warm Welcome

…..to our Spring ON Highlights.

In this edition the One Nucleus team is thrilled to be focusing on international relationships – ours and our members. We all know that in order to thrive and grow in the life science and healthcare sector, it is hugely important to ‘think globally’ from day one.

With this in mind, the One Nucleus mission is ‘to help our members maximise their global competitiveness’. We feel the best way to do this is to have the right international connections for our members to directly benefit from and to encourage organisations from other parts of the world to be part of the One Nucleus family. One of our four strategic goals is the continued enhancement of our international reach – to ensure our activities have a tangible global feel for our members to engage with and thus support our mission.

It is important that One Nucleus’ links internationally aren’t solely for the benefit of our members – they need to be reciprocal in order for relationships to flourish. The first of our lead interviews is with our fantastic friend and business partner, Joe Panetta, the long-standing and much appreciated Chief Executive of Biocom – the membership organisation for the West Coast US. We have a relationship that sees us supporting each other’s endeavours – whether it is a One Nucleus member looking to set up on the West Coast, or support for our annual One Nucleus BIO Executives Breakfast or even signposting each other to other highly credible new contacts around the globe. Do read Joe’s current thinking on Page 3. I’m really looking forward to spending time with Joe and his wonderful team at BIO in San Diego next month.

Those of you who know us well will be aware of the significant number of market-specific events we run, including hosting visiting delegations each year. In recent months these have included Sweden, Denmark, Quebec, Pennsylvania and Orange County. With the latter, One Nucleus was delighted to host Linda DiMario, Bill Carpou and a large delegation from Orange County earlier this year. In the second of our two lead interviews, Linda and Bill’s impressions of us and the wider UK make for interesting reading on Page 5.

Our open door approach to international visitors is extremely important but we are also mindful of the need for our own events to map on to this mission. You will see from the programmes for both our annual conferences, Genesis and ON Helix, we are fortunate to have international life sciences
royalty as Keynote Speakers. I was absolutely delighted when Dr Susan Windham-Bannister, ex-President of the Massachusetts Life Sciences Center (responsible for delivering the Governor’s $1 billion life science and healthcare programme under Governor Deval Patrick), gave the Keynote Address at our annual translational research conference ON Helix in 2016 (photographic evidence on Page 18 where she features with our fabulous Boston ‘Eyes and Ears’, Ted Agne). We continue to work closely together and Susan has been extremely generous with her input to the regions’ Science and Innovation Audit currently being prepared, which One Nucleus is supporting. Who better to learn from I say!

This year for ON Helix we have the dynamic and inspiring Sharon Vosmek, CEO of Astia delivering the Keynote Address. Sharon has transformed Astia during her tenure as CEO since 2007, having previously served as COO from 2004. Under her leadership, Astia is now a hugely eminent US organisation working to ensure the success of high-growth start-ups. She has led Astia’s growth from 20 individuals in Silicon Valley to the global community of more than 5,000 investors, entrepreneurs, family offices, industry leaders and individuals that it is today. Sharon is highly regarded around the globe for her opinions, research and commentary on the importance of diversity as being integral to innovation and high-performing entrepreneurial companies. She has recently spoken at the United Nations, the Milken Institute CA Summit and has given lectures at numerous universities, most notably on the topic of building inclusive ecosystems at Stanford and MIT plus many more entrepreneurship conferences around the world. We can’t wait to hear from her and do hope you will be able to join us on 13 July at the prestigious Wellcome Genome Campus for the conference (www.onhelix.com).

Chief Executive

‘It is important for all the One Nucleus team that our relations internationally aren’t only for our members benefit – they need to be reciprocal in order for the relationship to flourish’

13 July 2017 Cambridge, UK

ON Helix is the established translational research conference brought to you by One Nucleus, which brings academia and industry together under one roof; bridging the gap between basic research and launching a product onto the market.

Our Keynote Addresses:
- Sharon Vosmek, CEO, Astia
- David Tapolczay, CEO, MRC Technology
- Sara-Jane Dunn, Microsoft
- Pete Jackson, The AMR Centre

What to expect from the conference:
- ON Helix Welcome Reception and BioNewsRound Award | 12 July 2017
- Interactive Panel Debates
- UCLTranslational Office Workshop
- 300+ Delegates
- 30 Exhibitions
- 1-2-1 Partnering
A Shared Goal

Much has happened in the six years since One Nucleus last interviewed Joe Panetta, President and CEO of Biocom, the leading membership organisation for the life science sector in California. We spoke to Joe about the many highlights of working in this vibrant community and about our shared goal to nurture the worldwide life science ecosystem.

Tell us a little about Biocom and your role

It is humbling to be President and CEO of this organisation, especially in its current state of growth and expansion. Biocom has very fundamental goals: to accelerate the success of the California life science community and help our members produce novel solutions that improve the human condition. We have more than 850 members spread across the state and internationally, including biotechnology and pharmaceutical companies, start-ups, university and research institutes, accelerators, software companies, and service providers. We have 45 staff across the state who work alongside industry, government, investors, academia and other stakeholders to accomplish key goals, including successful advocacy, talent development, cross-industry collaborations, value-driven purchasing programmes, and a vibrant financing climate. We have wide-ranging initiatives and more than 75 events per year. Biocom is now the largest, most experienced leader and advocate for California’s life science sector. I could not be more excited to lead this organisation and look ahead to what’s next.

What have been the highlights since we last spoke to you back in 2011?

Wow, that’s a tough question. There have been so many highlights, but let me cover a few that are important to me. Over the past few years, especially in 2016, Biocom has worked hard in six areas.

First, in advocacy we have added a talented team in Washington, DC and grown our team in Sacramento, along with staff who focus on local issues; collectively they advocate for our industry and educate and inform elected officials and other key stakeholders. Our recent policy work has focused on digital health, precision medicine and genomics, and oncology. We also supported the 21st Century Cures Act and work to create a favourable tax structure for our industry. The Biocom team meets regularly with top officials from the US Food & Drug Administration (FDA), the Centres for Medicare & Medicaid Services (CMS), the National Institutes of Health (NIH), and members of Congress.

Second, we work hard to bring value to our members’ bottom line. Our Biocom Purchasing Group now provides more than $120 million in savings to our members with more than 40 vendor contracts. In 2016, the Purchasing Group awarded a much-expanded lab supply contract to Thermo Fisher Scientific. What is exciting is that we used a completely new paradigm in the awarding process, and the outcome is an unprecedented life science solutions offering that delivers competitive advantages not available anywhere else in the US. Our healthcare benefits programme provides discounted medical insurance to more than 200 companies, offering tremendous savings over open-market plans, at a time when the cost of healthcare is exploding in the US.

Third, as the life science industry continues to grow and mature, it is clear that dynamic collaboration is crucial to sustaining innovation. Biocom focuses on creating programmes that allow for the highest level of collaboration. In recent years, we’ve launched our Big Data Summit, which features luminary talks on the changes in healthcare business models and how big data is transforming the business of life science. We also co-hosted the first Precision Medicine Conference and the Festival of Genomics and hosted a highly successful DeviceFest for the medical device industry.

Fourth, we have responded to the extraordinary growth of outsourcing in the life science industry by creating a Contract Research Organisation (CRO) programme, including a committee, events, and a CRO web site for our members. Our CRO group educates sponsors and members on relevant and time-sensitive content through our educational series of events.

Fifth, we attract partners in capital development. Most significantly, we created a Global Life Science Partnering Conference several years ago that attracts the leaders in licensing and business development from around the world to San Diego. 2017 marks the 8th annual conference, where more than 225 senior executives and business development professionals from leading pharmaceutical and biotech
companies will come together to network and broker partnering deals. Biocom has continued to grow our Venture Days and Partner Days, and expanded our Super Angel day to create more valuable investment and partnering opportunities for members. We also held an Innovation Day with Thermo Fisher Scientific, giving researchers an opportunity to discuss projects they are working on with potential partners.

Sixth, we support the community. Our members take advantage of discounted professional development courses; and employees of Biocom-member companies contribute their time to excite young minds about STEM, especially at the Biocom Institute’s Festival of Science and Engineering. We saw more than 75,000 people to attend our Festival Expo and events this March.

…and the challenges facing life sciences in California and more generally in the US?

The challenges facing the California life sciences industry are generally the same as we’ve faced in the past: access to capital; recruitment of experienced talent; regulatory burdens; tax structure; basic research funding for the NIH; and more. We hope that members of the new Trump Administration will appreciate that the 21st Century Cures Act passed by Congress last year can only be effectively implemented if the allotted funding is received by the FDA and the NIH. We are encouraged by reports from this Administration that there is interest in bringing more manufacturing jobs to the US, reducing the corporate tax rate, supporting innovation, and looking for ways to streamline regulation.

Very briefly what are your members up to?

Today, there is tremendous momentum around immuno-oncology, digital health, medical devices, and genomics. Right now, Illumina is the behemoth in sequencing, and is a company that helped to put San Diego on the world map as the global epicentre for the genomics industry. With Illumina’s additional focus on oncology, we have the perfect pairing with another of San Diego’s strengths: big data computation. Companies like Helix are working in mass-sample sequencing; Edico Genomics and others are revolutionising the way genetic data is analysed; and Human Longevity is using genetic data to deliver personalised health solutions. There are dozens of companies in the state that are fuelling innovation for the coming year.

Additionally, the field of personalised medicine, especially as it relates to the device and wireless health side, is well-positioned for continued growth. We have a transformative company, Dexcom, which has an advanced continuous glucose monitoring technology, and Qualcomm Life, with its platform monitoring technology, and an advanced continuous glucose monitoring technology, and Qualcomm Life, with its platform that enhances clinical workflows and operational efficiencies in hospitals.

Down the road, I’m excited about the growth in oncology. The strengths of our state, and the presence of the larger pharma companies here, is encouraging. Celgene, Takeda, and Lilly come to mind.

Finally, we not only have offices across California, we also have an office in Tokyo and relationships with partners in Europe, including One Nucleus.

How do you value the relationship with One Nucleus and the benefits it brings to members of both organisations?

Our relationship with One Nucleus is valued for a number of reasons. Firstly, our mutual goals of nurturing the worldwide life science ecosystem, accelerating company success, creating policies that protect the industry, and working to support our members are all well aligned. We have shared values when it comes to intellectual property protection, favourable tax structures, and streamlining regulatory obstacles. More importantly, we have seen a deepening of the UK trade relations with California, and with San Diego in particular. The UK, and London/Cambridge in particular, offers access to top scientific talent, including some of the top universities in the world. During a recent visit, I met with the UK Minister of State for International Trade, Greg Hands, who said, ‘the UK is the second-largest investor in California, and life science is an important part of the trade picture’. In fact, in 2014, the British Government announced plans to sequence the genomes of 100,000 UK residents using Illumina’s sequencing instruments. We were delighted when the UK recently opened a trade office in San Diego, with a dedicated focus on the life science industry, including a terrific staff on call to deepen relationships with local life science companies. All of these efforts act in concert with our relationship with One Nucleus, and we expect to deepen our engagement with you during BIO 2017, here in San Diego.

www.biocom.org
A recent US delegation to the UK invited life science companies to meet the Greater Irvine Chamber of Commerce and partner organisations to discuss trade and investment opportunities in Southern California. Just back from their trip, Linda DiMario, Vice President Economic Development & Tourism, Greater Irvine Chamber and Bill Carpou, Chief Executive of OCTANe, spoke to One Nucleus.

Tell us about the recent delegation and why you chose to visit the UK?

Linda DiMario (LDiM): We want the world to know that Orange County, California, and specifically Irvine, is home to a thriving, global life science ecosystem. When looking where to take this message first, we researched the location of the best and highest-potential life science companies looking to establish a presence here. The UK registered very high, and where these businesses clustered dictated our visits to London, Cambridge and Manchester. We were prepared to find strength in the UK but were astonished at the size, scope and depth of UK life sciences. We left feeling encouraged and excited by the possibilities.

Bill Carpou (BC): The UK provides a great opportunity to leverage the established life sciences cluster we have in Orange County. London of course is key, and both Cambridge and Manchester represent great innovation hubs between the universities and Alderley Park. Great potential exists for companies headquartered in the UK to utilise Orange County, and specifically Irvine, to expand their presence in the US. At the same time, for Southern California companies evaluating expansion into Europe, the UK provides an ideal location and entry point.

LDiM: The assembled delegation included people who know Irvine well and understand its assets and benefits, and who also have subject matter expertise important to a company looking to establish a presence in the US. We wanted our UK contacts to know that we were serious about doing business with them and that we were prepared to listen to and manage their questions. The strength and depth of the delegation contributed greatly to our credibility.

California is a recognised as a global innovation hub but what makes Irvine so special?

LDiM: Irvine was master-planned to be an economic powerhouse. Unlike other cities in California, Irvine was designed to provide all the elements required to help a company succeed and grow: safest city in America for 12 years in a row; strategic location; high quality professional support services; global logistics hub with access to multiple ports and airports, markets, suppliers and customers; an educational system that delivers the talent required by life science companies; cutting edge R&D; and a thriving life science sector with which to partner, collaborate and expand. And that’s before we brag about the amazing Southern California weather and Mediterranean climate!

BC: As Linda says, location is key, additionally the access to capital and expertise provide the two key ingredients for growth. Orange County is situated between San Diego and Los Angeles providing not only our own highly skilled workforce of three million but the ability to pull from both San Diego (three million) and Los Angeles (seven million) providing a skilled labour pool of 13 million people. Additionally, the region ranks third in VC capital, behind only Silicon Valley and slightly behind Boston; though when coupled with San Diego, our region ranks second. The area has an infrastructure of highly skilled people that provides both mentors and advisors to companies in the start-up and early stages. OCTANe has over 275 advisors and a growth services group that together support the necessary process required to scale and grow companies.

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Tell us a little about your organisations and how you work together...

**LDiM:** The Greater Irvine Chamber represents the business interests of its 800 member companies. This translates to workforce development programmes that support our companies to attract and retain top talent and international development initiatives that help companies export their products and services and help us grow the stable of global companies doing business in Irvine. The partnership between the Greater Irvine Chamber and OCTAnE grew out of our shared desire to enhance and expand the start-up ecosystem in Irvine and Orange County. OCTAnE’s emphasis on medical device and technology aligns with the Chamber’s goals of growing this successful 21st century industry sector.

**BC:** This is a very collaborative relationship. We work to promote each other, and our objectives are completely aligned: we wish to build a world-class life science ecosystem with global recognition. OCTAnE provides conferences and programmes for companies, investors and entrepreneurs to meet and generate ideas; we connect people and ideas with resources and capital. Our LaunchPad accelerator supports the building of a capital strategy that has resulted in over 240 companies receiving $1.4 billion in both initial and subsequent funding. Growth Services helps companies align requirements to expertise and grow their businesses from an operational perspective. Both the Chamber and OCTAnE are valued partners of each other, operating in alignment to grow the Orange County ecosystem.

.... also something about the other partners involved in the delegation and their objectives for the visit

**LDiM:** Every member of the delegation contributed subject matter expertise as well as an enthusiasm for and working knowledge of Irvine:

- **Leigh Volkland** from Edwards Lifesciences, the world’s global leader in heart valve innovation and manufacture based in Irvine;
- **Kate Klimow** from University of California at Irvine (UCI), a university with an established reputation in healthcare, R&D and innovation, which provides an infrastructure for very early-stage life sciences and tech companies;
- **Jason Lantgen** from Jones Lang LaSalle (JLL), a trade, incentive and workforce development expert and a key member of our community, providing real estate and strategic logistical planning for companies;
- **Lynn Stewart** from California Centre for International Trade; myself and my colleague Diane Le from Greater Irvine Chamber; and obviously Bill from OCTAnE.

In addition to the delegates included above, we were supported by OCO Global who supplied ground intelligence about the people and companies we were to meet. The London offices of K&L Gates, Greater Manchester Chamber of Commerce, London & Partners, Wellcome Genome Campus, One Nucleus at The Portway at Granta Park, Alderley Park, the US Embassy, and the UK’s Department of International Trade all graciously provided meeting space, support services and recommendations that helped to make this mission so productive and set the stage for exciting future collaborations.

Do you have any specific messages for One Nucleus members looking to explore opportunities for expansion into the US?

**LDiM:** Yes. There is a strong and forward-leaning life science ecosystem in Irvine, California. We encourage the One Nucleus membership to look beyond Boston! We have a hot bed of life science activity, cutting edge R&D, and competitive global success. We want One Nucleus members to know that we in Irvine are eager to talk with them, so they can learn first-hand the opportunities and benefits that await them when they establish a presence here and become an integral and essential part of our extraordinary life science sector.

**BC:** Just to reinforce - One Nucleus companies should strongly consider Orange County and Irvine. Looking beyond the business reasons already mentioned, the climate, quality of life and proximity to affordable housing compared to many other locations provide a good balance of business and personal drivers. Support is available from organisations such as OCTAnE to help with easy and quick assimilation into the local ecosystem and to advise on how best to utilise the many services available.

www.octaneoc.org
www.greaterirvinechamber.com/irvinechamber

‘We researched the location of the best and highest-potential life science companies looking to establish a presence here. The UK registered very high, and where these businesses clustered, dictated our visits to London, Cambridge and Manchester’
Findacure is a Cambridge-based charity that is building the rare diseases community in order to drive research and develop treatments. A rare disease is defined in Europe as a condition that affects less than 1 in 2,000 people. Being part of such small patient populations means rare disease patients face extra barriers to good health compared to those with more common conditions. For instance, as medical professionals are largely unfamiliar with rare conditions, 30% of patients receive three or more misdiagnoses over an average of 5.6 years prior to their final diagnosis with a rare disease. Due to the cost of novel drug discovery, it is often unprofitable to develop therapies for rare diseases, meaning that less than 6% of the 7,000 rare diseases have a licensed treatment in the UK. Patients are often geographically dispersed, and many experience isolation, never meeting another person with the same health problems.

Findacure is tackling these issues with new, innovative projects. Its work falls into three main areas: training patient support groups so they are able to reach out to patients, become valuable research partners, and make a bigger difference to patients’ lives; promoting collaboration between all rare disease stakeholders to encourage mutual progress; and drug repurposing using a ‘social impact bond’ (SIB). The last project aims to deliver affordable treatments to rare disease patients.

The group are actively searching for individuals and teams to take part in upcoming fundraising events. Why not tick a skydive off your bucket list and join the team on Saturday 24 June? Or if you need a motivation to keep fit through the year, why not run the Royal Parks Half Marathon for Findacure on Sunday 8 October? Or if you have another event or goal in mind, the charity would love to hear from you.

F-star Collaborates with Denali to Deliver Therapeutics Across Blood-Brain Barrier

Cambridge-based biopharmaceutical company, F-star recently announced a collaboration with Denali Therapeutics – a US West-Coast biotech focussed on neurodegenerative disorders – to discover and develop antibodies for delivery of medicines across the blood-brain barrier (BBB) into the central nervous system (CNS).

Treating neurological disorders using biologics is a major challenge as only a low proportion of administrated drug reaches the CNS, and little is known about transportation mechanisms across the BBB. However, Denali’s science-driven approach is one of the most promising to address this challenge. The collaboration leverages both Denali’s expertise and F-star’s capabilities in the development of bispecific antibodies (mAb²). Though F-star remains focused on progressing its proprietary immuno-oncology pipeline, its Modular Antibody Technology is ideally suited to create molecules that will deliver biologic drugs into the CNS across the BBB.

This partnership aims to generate mAb² by exploiting the

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combinatorial capabilities of F-star’s platform. An additional antigen-binding site is inserted into the Fc region of an antibody in a ‘plug-and-play’ manner to engineer a bispecific molecule. The resulting antibodies can bind to transporters in the BBB and also to therapeutic targets within the CNS. This mechanism has the potential to treat neurological diseases by acting on specific targets within the brain.

For this agreement, F-star spun out F-star Gamma, its third asset-centric vehicle (ACV). The business model has already been used when incorporating Alpha (in 2013) and Beta (in 2014). These first two ACVs are, respectively, under an option to buy by Bristol-Myers Squibb and in a licensing collaboration with AbbVie.

This highly flexible structure offers Denali the option to acquire F-star Gamma or to license a pre-specified number of mAb² for a potential aggregate value of over $1 billion. The partnership agreement was discussed by Jane Dancer, CBO at F-star, at Genesis 2016. An overview is available here.

www.f-star.com

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Aptuit and MGH Collaborate on the Identification of Novel Treatments for Gram-Negative Infections

Antitoxins and MGH Collaborate on the Identification of Novel Treatments for Gram-Negative Infections

Antimicrobial resistance is a complex problem of global concern, which requires coordinated action to minimise its emergence and spread, rather than single, isolated interventions that may have limited impact 1.

Aptuit recently announced a collaboration with the Molecular Surgical Laboratory of Massachusetts General Hospital (MGH), directed by Dr. Laurence Rahme, aimed at the identification and validation of novel targets in Gram-negative bacteria. The collaboration hopes that innovative approaches can help address antibiotic resistance in the treatment of serious infections. The main focus will be on those multidrug resistant (MDR) Gram-negative pathogens, such as Pseudomonas aeruginosa, that ‘are a serious concern and require prompt and sustained action to ensure the problem does not grow,’ as evidenced by the Centres for Disease Control & Prevention (CDC) in its report Antibiotic resistance threats in the United States, published in 2013². Approximately 13% of severe healthcare-associated infections caused by Pseudomonas aeruginosa are reported by the CDC to be multidrug-resistant, signifying that many classes of antibiotics can no longer treat these infections.

This collaboration will help to identify targets for the development of novel therapies to combat the emergence of antibiotic resistance, potentially contributing to a decrease in mortality rates due to MDR-sustained bacterial infections.

Aptuit will provide deep expertise in integrated infectious disease discovery, including in vitro and in vivo capabilities, complementing the Rahme Lab scientific platform and expertise in the field of anti-virulence research.

This is a continuation of an already fruitful collaboration between Aptuit and the Rahme Lab, aimed at elucidating the intimate and complex mechanisms that bacteria have developed to increase their tolerance to antibiotics and to express virulence in the host during infections.

References
1 World Health Organisation Health Topics: Antimicrobial Resistance
www.who.int/antimicrobial-resistance/en
www.who.int/mediacentre/factsheets/fs194/en

2 Centres for Disease Control and Prevention Antibiotic resistance threats in the United States, 2013
www.cdc.gov
Inivata Opens US Laboratory and Initiates Clinical Trial of Innovative ctDNA Liquid Biopsy

The second half of 2016 saw Inivata take significant new steps in becoming a truly global company and advancing its revolutionary approach to circulating tumour DNA (ctDNA) analysis to improve personalised healthcare in oncology.

In September, the company formally announced the establishment of its US site in North Carolina. Speaking at the time, CEO Michael Stocum explained: ‘The Research Triangle Park is particularly alluring for launching our US operations as it has a unique blend of major academic medical centres, innovative biotech, information technology, biopharmaceutical and contract research organisations plus it enables a fantastic quality of life.’

Inivata has expanded rapidly at the site and now employs over 50 people supporting clinical development and commercialisation.

The importance of a US base was underlined in October when the company announced the launch of a clinical validation study in non-small cell lung cancer. The trial will be conducted at more than 30 centres in the US and be led by two highly respected co-principal investigators: Ramaswamy Govindan, MD, Anheuser-Busch Endowed Chair in Medical Oncology, Director, Section of Oncology, Washington University School of Medicine; and Ed Kim, MD, Chairman, Solid Tumour Oncology and Investigational Therapeutics at Levine Cancer Institute. It is expected to recruit several hundred patients and complete later this year.

Michael Stocum said: ‘Liquid biopsies allow far less invasive analysis of a patient’s cancer and have the potential to greatly improve care. To deliver on that promise we believe it is vital to establish strong evidence of clinical utility and show that the technology can deliver real world benefits to physicians and patients. This trial is an important part of our extensive international clinical development programme aimed at establishing a robust evidence base for our approach to support commercialisation.’

In the UK, Inivata also continues to expand, and is in the process of consolidating its R&D, bioinformatics, clinical laboratory, and administrative functions into a new base in Granta Park, Cambridge.

www.inivata.com

LabKey Working with Genomics England

The ‘100,000 Genomes Project’ aims to sequence 100,000 whole genomes from approximately 70,000 people with certain types of cancer or with rare disease, as well as their families. Led by Genomics England, the initiative will bring together an unprecedented depth of clinical and genomic information to improve prediction and prevention of disease, spur the development of new diagnostics, and support personalisation of medical treatments based on genotypes. This is currently the largest national sequencing project of its kind in the world.

LabKey is working with Genomics England to provide the data management system that will integrate and securely share the complex data across contributing labs, clinical sites and repositories. LabKey Server, the company’s open-source software platform, has been selected by the project to

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facilitate the secure aggregation, review and integration of phenotype and genotype information gathered across multiple sites, enabling review, reporting and analysis of the information by both clinicians and researchers, ensuring the protection of patient privacy whilst facilitating knowledge sharing.

To ensure the success of the project, Genomics England and LabKey conducted collaborative planning sessions to determine goals and requirements alongside an infrastructure analysis. This resulted in a shared understanding of needs and a phased development roadmap for the LabKey Server platform, with flexibility to accommodate new requirements and priority shifts.

The first phase of development focused on implementing secure, extensible and reliable pipelines to collect cancer and rare disease patient data from 13 Genomic Medicine Centres (GMCs) and 90 Local Delivery Partners (LDPs). Due to the sensitive nature of the data, encryption and advanced security protocols have been implemented to meet exacting information governance policies and ensure the security of patient data.

Secure access to subsets of patient data is provided through a series of web portals, only accessible by approved organisations. Users can perform a variety of data analytics within their portal using LabKey Server’s built-in reporting, querying and visualisation tools, including domain specific visualisations like Kaplan–Meier survival curves, patient-event time-lines, and study feasibility estimations.

The next phase of application development will bring a patient data-focused approach to clinical analysis, with more efficient analytic capabilities, cohort exploration, and enhanced analysis tools for physicians and researchers alike, through the development of a ‘research’ instance of LabKey Server that will house de-identified data for research analysis.

For more information, please visit www.labkey.com or contact jasonl@labkey.com

Abzena Invests in Future Capacity as Customer Demand Rises

Abzena is seeing strong demand for its integrated offering across the breadth of the drug development process.

Since making two acquisitions in the US at the end of 2015, the company has integrated its enlarged offering which now includes GMP biomanufacturing services, extended antibody drug conjugate (ADC) bioconjugation and linker-payload synthesis capabilities. This expansion has resulted in increased customer traction, with deals such as a significant licensing agreement with a San Diego-based biopharma for Abzena’s novel site-specific ThioBridge ADC linker technology in January this year, and a licence

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agreement for its proprietary Composite Human Antibody with US biotech, Trieza Therapeutics in December 2016.

To meet this demand, Abzena has expanded its biomanufacturing process development capacity through additional laboratory space in San Diego. GMP manufacturing has been expanded by the addition of two new cleanroom suites. The company has also established GMP capability for the manufacture of ADC linker-payloads in Bristol, PA. The breadth of offering also means that customers can utilise Abzena’s expertise as they progress further through the drug development process. A manufacturing process development agreement signed in February with UCL for Magacizumab, a candidate for neovascular age-related macular degeneration, for which Abzena has already completed antibody engineering and cell line development projects, is a great example of how Abzena helps partners pursue a translational research programme from target to clinic.

Coming up later this year, Abzena plans to consolidate its UK headquarters and operations into a new state-of-the-art facility on the Babraham Research Campus.

CEO Dr John Burt commented, ‘This strong momentum in top line growth from the first half has continued, driven by demand for our integrated services across the breadth of the biopharmaceutical development process. Our strategy of investing in future capacity will ensure our ability to provide quality service for this high level of customer need as our partners’ programmes progress.’

www.abzena.com

Horizon and Sophia Genetics Partner on NGS Testing

Horizon’s Reference Standards with Sophia Genetics’ artificial intelligence, ultimately providing hospitals and laboratories with more accurate and high quality oncology NGS testing services, assays and genomic data analysis.

In particular, current and future users of the Sophia DDM (data-driven medicine) analytical platform will be able to assess the quality of their NGS assays, maximising sensitivity and specificity. The companies say the use of HDx Reference Standards will help with performance monitoring as well as reproducibility and repeatability of NGS tests.

‘The quality of molecular profiling is a cornerstone of NGS testing and relies on a series of technical steps being performed correctly, from the collection of patient samples and DNA extraction, to creating and analysing genomic data,’ said Jurgi Camblong, Chief Executive Officer and co-founder, Sophia Genetics.

He continued: ‘Sophia Genetics helps hospitals and laboratories to make the most of their NGS testing and we are delighted to combine Horizon’s Reference Standards with our artificial intelligence for Data-Driven Medicine, increasing the number of patients that will benefit from reliable NGS genomic testing results.’

Dr. Darrin M. Disley, Chief Executive Officer, Horizon Discovery Group, commented: ‘Our new partnership with Sophia Genetics demonstrates the increasingly important role well validated controls have in the provision of molecular assays, especially for complex technologies such as NGS as they become more widely adopted.’

www.horizondiscovery.com
TTP Group has recently spun-out TTP Ventus, a new company formed to commercialise the second generation of The Technology Partnership’s (TTP) proprietary micropump technology.

The micropump platform, Disc Pump, was initially developed to address a need in the micro fuel cell market, and now has proven applications across sectors including medical devices, healthcare, and scientific research. The technology’s unique features derive from its operating principle; rather than changing the volume of a chamber, the micropump excites a high-frequency acoustic standing wave in a fixed-volume cavity.

TTP Ventus believes that one key application area for Disc Pump is Microfluidics. ‘Deploying a gas pump in applications that require the movement of liquids might not seem obvious on the face of it’, says TTP Ventus’ Tom Harrison. ‘However, there are many instances in which using gas pressure to move a liquid indirectly can be advantageous.’

‘By avoiding pumping the working fluid directly, pulsation and mechanical stress in the fluid can be reduced, which is of particular interest where the fluid contains delicate components at risk of damage, such as biological cells.

Owing to its unique operating mechanism, our pump can be controlled with incredible precision, yet at the same time respond to full-scale set point changes in a matter of a few milliseconds. The compact form factor means it can be tightly integrated into products, reducing dead volume. All of this contributes to unrivalled real-time control performance in microfluidic applications.’

For more information about Disc Pump visit www.ttpventus.com

Travelling in 2017 – Talk to Flight Centre Business Travel

Flight Centre Business Travel (FCBT) is celebrating its 5th year as One Nucleus’ preferred travel supplier. The relationship continues to go from strength to strength and this year promises to be better than ever before. Charlie Tulip, Business Development Manager, said ‘Working with One Nucleus has become a crucial part of our strategy and we hope to make this our most successful year yet.

As we continue to learn about the biotechnology industry we are finding more and more ways to help One Nucleus members.’

Charlie has been instrumental in bringing the two parties together and still oversees the relationship today. ‘It’s been an absolute pleasure working with the team at One Nucleus and its members - I’m very proud of everything we’ve achieved this far. The coming months will see more exclusive offers being made to members with packages available through the FCBT website or alternatively we can tailor each package to suit a client’s individual needs. If you’re travelling in 2017 we’d love to hear from you.’

Charlie is always keen to speak to members that travel regularly.

(Continued on page 13)
to see how FCBT can assist. ‘We feel we have the right offering for One Nucleus members but I know we can make it even better. Many of the developments we’ve made in our offering over the last 24 months have come directly from conversations we’ve had with members telling us what’s important to them when booking their travel. We want members to tell us what they want from a travel management company and if at all possible, I will make it happen.’

Harriet from One Nucleus confirms ‘FCBT is a key partner for One Nucleus and we truly value the relationship we have with Charlie and the team. I like to think that the partnership is a mutually beneficial one. Our members receive a significant personal service from FCBT when explaining their travel requirements. Vitally, FCBT is able to offer our members both this bespoke support and major savings on the cost of flights and accommodation.’

Charlie Tulip can be contacted for a brief initial chat on 07792 778766 or alternatively email charlie.tulip@flightcentre.co.uk

www.flightcentre.co.uk

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Cambridge Epigenetix Establishes Scientific Advisory Board

In March Cambridge Epigenetix announced the formation of its Scientific Advisory Board (SAB), comprising experts in oncology, liquid biopsy and ageing. The company explained that the SAB will form a key strategic resource and provide unique research perspectives as the company transitions towards becoming an integrated commercial epigenetic biomarker discovery venture. The members are:

Sir Shankar Balasubramanian FRS, the company’s co-founder, and inventor of its initial proprietary ‘TruMethyl’ technology, will chair the SAB. Professor Sir Balasubramanian is the Herchel Smith Professor of Medicinal Chemistry at the University of Cambridge. He is recognised for his research contributions to the chemical biology of nucleic acids and the genome. He was a founder of Solexa, and co-inventor of the basic technology underpinning Solexa sequencing.

Wolf Reik, FRS FMedSci, who has been a scientific advisor since the company’s founding in 2012, is Head of the Epigenetics Programme at the Babraham Institute in Cambridge and its Associate Director. He is honorary Professor of Epigenetics at the University of Cambridge and Associate Faculty at the Wellcome Trust Sanger Institute, where he is a founding member of the recently established Centre for Single Cell Genomics.

Anjana Rao, PhD, is Professor and Head of the Division of Signalling and Gene Expression at the La Jolla Institute and the Sanford Consortium for Regenerative Medicine in San Diego. Professor Rao’s team was the first to identify the role of the ten-eleven translocation (TET) family of proteins in epigenetic regulation through the conversion of 5-methylcytosine (5mC) to 5-hydroxymethylcytosine (5hmC). The characterisation of 5hmC and its utility as a biomarker for a range of important diseases is a cornerstone of Cambridge Epigenetix’s activities.

Jay Shendure MD, PhD, is Professor of Genome Sciences at the University of Washington, where his lab’s focus is to develop and apply new technologies in genomics and molecular biology, with an emphasis on next-generation DNA sequencing and its applications in human genetics.

Dr Jason Mellad, CEO at Cambridge Epigenetix, commented: ‘Cambridge Epigenetix is committed to making a significant impact in healthcare, and we are delighted to have secured such eminent SAB members.’

For more information, visit www.cambridge-epigenetix.com
Blood Profiling Atlas Project Aims to Advance the Development of Simple, Blood-Based Test for Early Cancer Diagnosis

Seven Bridges recently announced that its biomedical data analysis platform will be used by the Cancer Moonshot’s Blood Profiling Atlas project. The project is designed to accelerate the development and approval of simple, accurate, and reliable blood tests for cancer diagnosis and precision treatment.

To support this work, Seven Bridges is collaborating with the National Cancer Institute and the Food and Drug Administration, in addition to AstraZeneca, Celgene, Eli Lilly and Company, Epic Sciences/Memorial Sloan Kettering Cancer Center, Foundation Medicine, Genentech, Guardant Health, Novartis, Personal Genome Diagnostics, Pfizer, Sage Bionetworks, ThermoFisher, University of Chicago, University of Michigan and the University of Southern California.

Blood profiling could allow the detection of genetic or cellular changes associated with cancer using a blood test instead of an invasive tissue biopsy. These technologies provide new avenues for cancer detection, monitoring, and diagnosis. As new methods are refined, they may be used to analyse how well a specific treatment is working, to identify if a cancer in remission has come back, and even to detect cancer in non-symptomatic patients at the earliest stage. But because the research community needs to build consensus around how to most effectively collect and analyse the massive volumes of data involved, realise the full potential of blood profiling will require greater collaboration and standardisation among the many entities working on these studies.

Similar to The Cancer Genome Atlas (TCGA), The Blood Profiling Atlas can serve as an open database for blood profiling data. As part of the project, Seven Bridges will develop the Blood Profiling Atlas Analysis Cloud, where researchers can securely access this data (slated to include sequencing data, clinical annotations, sample protocols and other metadata from dozens of studies), develop standardized methods for data collection and analysis, and work collaboratively to make discoveries. The company will leverage its deep expertise working with top pharmaceutical companies and some of the largest genomic projects in the world — including the National Cancer Institute’s Cancer Genomics Cloud (CGC) pilot, the Million Veteran Program and Genomics England’s 100,000 Genomes Project — to ensure that data collected for the Blood Profiling Atlas project can be easily, securely and cost effectively analysed by a wide range of researchers.

www.sevenbridges.com

UCSF Adopt Magseed as Standard of Care

Endomag recently announced that the University of California, San Francisco (UCSF) had become the first US site to adopt Magseed as its standard of care for localisation of impalpable breast lesions. Magseed is a simpler, more effective alternative to traditional wire localisation methods.

Breast cancer is the most common form of cancer in women, with 1.7 million new cases of breast cancer globally every year, and is expected to double by 2030. Due to a rise in national screening programmes and an increase in public awareness, breast cancer is being caught at an earlier stage meaning that the tumours are smaller, less defined and harder to feel, with as many as 50% of all breast tumours impalpable at the time of diagnosis. In these cases, a technique called wire localization is typically used by surgeons to locate the tumour.

Although widely used, wire localisation commonly causes complications. On average one in every four breast wire localisations result in cancellous tissue being left behind and requiring additional surgery because the wire has become dislodged between when it was implanted and when it was removed during surgery. Additionally, there is a risk of infection due to the wire protruding from the skin, so the placement of

(Continued on page 15)
the wire must be done on the same day as surgery. These issues result in unnecessary anxiety for patients, delays to the surgical lists and fewer patients being treated as a consequence.

Dr. Eric Mayes, CEO of Endomag said: ‘The wire localisation technique has remained largely the same since it was introduced over 30 years ago and it causes a lot of anxiety for patients. We wanted to create a technique that could simplify the localisation process and improve the patient experience.’

Magseed is smaller than a grain of rice and can be placed into the tumour for up to 30 days, allowing the patient to return home ahead of surgery. Once implanted, the seed is not easily dislodged and patients are not restricted in movement or activity. During surgery the seed is detected with the Sentimag probe to guide accurate removal of the tumour and maximising the amount of healthy tissue left behind. Unlike radioactive alternatives that involve strict regulatory oversight and complex logistics, the Magseed technique can be widely adopted by any hospital, regardless of size.

For further information please visit www.endomag.com

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**Quotient Clinical Expands Through Two US Acquisitions**

Quotient Clinical has significantly expanded its operations recently, announcing two US acquisitions in February. The first, SeaView Research, is an expert clinical pharmacology business with 160 employees across two clinical pharmacology units located in Miami and Jacksonville, Florida. Each of the two facilities is capable of undertaking complex clinical research studies, including first-in-human investigations.

Quotient’s second US purchase, contract development and manufacturing organisation (CDMO) QS Pharma (formerly part of Charles River Laboratories), has further increased the scale of the business as well as adding high potency molecule capability to Quotient’s offer.

Quotient’s UK site provides early stage drug development services for biotech and pharmaceutical clients worldwide with 55% of business already coming from the US. The company has grown predominantly due to the success of its innovative Translational Pharmaceutics approach which integrates clinical testing with formulation development and real-time GMP manufacturing, helping to reduce clinical development time-lines and associated costs.

The company said the acquisitions not only increase its footprint in the US, but also pave the way for Quotient to replicate its Translational Pharmaceutics platform in America. Quotient says that over 100 leading pharmaceutical and biotech companies have already chosen to capitalise on Translational Pharmaceutics to accelerate the development of their products, for a variety of indications and routes of delivery.

Mark Egerton, Chief Executive Officer of Quotient, said: ‘Establishing an operational footprint in the US is an important milestone for Quotient, and we have now increased the scale of the business to approximately 600 employees, with annualised revenues approaching $100 million. We have proven the advantages of Translational Pharmaceutics, and we can now offer our customers the option to undertake their early phase clinical research either in the UK or the USA. We remain focused on continuing to deliver drug development solutions that save our customers both time and money.’

www.quotientclinical.com
Kymab Receives $9m Grant from the Bill and Melinda Gates Foundation

Kymab announced in January that it has received $9 million of future grant funding from the Bill & Melinda Gates Foundation to accelerate the development of novel vaccines and therapeutics for infectious diseases. The company has been working with the Foundation since 2014.

As well as its primary use to discover novel antibody therapeutics, the Foundation is working with Kymab’s Kymouse platform as a unique surrogate human platform for testing vaccine candidates designed to elicit a humoral immune response. The Kymab technology, with the entire repertoire of human antibody diversity and a normal immune response, is an excellent technology to evaluate vaccine antigens. The Foundation-funded infectious disease work programmes also provide Kymab with valuable contact with other commercial and academic partners, and offer an excellent springboard and source of knowledge.

In addition to funding Kymab to carry out specific work programmes, the Foundation has also invested $30 million in the company alongside other investors in the $220 million equity financing rounds completed to the end of 2016.

As one of the largest foundations in the world, the Foundation works to help all people lead healthy, productive lives. The Foundation’s Global Health Division aims to harness advances in science and technology to save lives in developing countries, working with partners to deliver proven tools - including vaccines, drugs, and diagnostics - as well as discovering path-breaking new solutions that are affordable and reliable. Through Kymab’s relationship with the Foundation, the company has already initiated research collaborations aimed at identifying vaccines and therapeutic antibodies to a range of infectious diseases, including malaria, Salmonella typhi, HIV and Bordetella pertussis.

www.kymab.com
The middle of June will see many of our members and wider network travel to South California for the annual gathering that is the BIO Convention. With over 15,000 expected attendees from around the globe and covering all aspects of the biotechnology spectrum, BIO, for many, can be a true adventure as they attempt to navigate the hustle and bustle of the week. For some, of course, it is the breadth of BIO that makes it so attractive over other events. Providing an opportunity to gain insight into new technology areas, awareness of opportunities in different territories and a chance to focus efforts via pre-planned one-to-one meetings, BIO offers a great deal but it can be challenging to maximise the return on investment to attend. The targeted meetings are something our members have vast experience of coordinating, so it is the related aspects where One Nucleus focuses its efforts in order to support our members as follows:

**Cost**

Maximising return on investment starts with limiting the investment. Working with our Partners at Flight Centre Business Travel and via United Life Sciences, One Nucleus members can benefit from discounted flight, accommodation and conference access offers.

**New Technologies**

Of course, those attending BIO will inevitably discover emerging technology solutions as they go about their core Business Forum meetings and networking, but each year One Nucleus selects a focus for a **One Nucleus BIO Breakfast Seminar** on the Monday morning ahead of the Business Forum opening. Emerging technologies and their applications are debated within the international context.

Last year, Digital Health was the focus of the session and much insight was shared from a US, European and UK perspective on the current challenges to adoption of the new technologies in healthcare. Some of the collaborators in that debate, such as Bristows, Johnson & Johnson Innovation and MedCity are engaging again this year, as we seek to move the conversation back towards the research and development space under a title of ‘Technology-Enabled R&D’.

The session will see presentations and a panel discussion around the opportunities and challenges of utilising digital technology to inform aspects such as patient stratification, clinical trial recruitment, application and data management throughout clinical development.

Genome Quebec and UL Compliance will be joining the session, taking place on **Monday 19 June 2017**, to provide in depth insights into the application of genomic research infrastructure and how such technologies can enable companies to meet the compliance requirements of the FDA and other regulators.

**Tony Jones, Director of Business Development**
This year, ON Helix will take place on 13 July at the Wellcome Trust Conference Centre, Hinxton, Cambridge. This unique translational research conference, being held in the heart of the world-renowned Cambridge cluster, attracts the best from all areas of the life science and health care sectors. It brings together industry experts and scientists from some of the top universities in the UK, allowing ideas to be freely exchanged under one roof.

This year, ON Helix will take place on 13 July at the Wellcome Trust Conference Centre, Hinxton, Cambridge. This unique translational research conference, being held in the heart of the world-renowned Cambridge cluster, attracts the best from all areas of the life science and health care sectors. It brings together industry experts and scientists from some of the top universities in the UK, allowing ideas to be freely exchanged under one roof.

This year, ON Helix sponsors include AstraZeneca, MedImmune, Astex Pharmaceuticals, Marks & Clerk, The Communications Strategy Group, Mathys & Squires and MRC Technology. There are still a couple of sponsorship opportunities available, so please get in touch if you too would like to support ON Helix. Once again, the event is supported by the Wellcome Genome Campus and the European Bioinformatics Institute (EMBL-EBI), highlighting the importance of this event in the region and to translational medicine.

To kick off the event, on 12 July, the day before ON Helix, we will be holding a welcome reception at the EMBL-EBI. As in the past, we will be running the Summer BioNewsRound Award Final and entries for this will be opening shortly. Keep your eyes open for more details in our eNews and ON Helix bulletins. Along with this, we will also be having a panel discussion and a few drinks afterwards to wrap up the evening, so please do join us for this event.

This year, for the first time, we will also be holding a joint investor dinner with Cambridge Enterprise on 12 July. This will be a ‘by invitation only’ event but there will be plenty of time to meet the attendees the next day at ON Helix itself.

The programme for ON Helix is shaping up nicely. Sharon Vosmek, CEO of Astia, an American investment powerhouse, will be giving the opening keynote address. She will be followed by Dave Tapolczay, CEO of MRC Technology, who will talk about what his organisation is doing to make translating research easier. The afternoon session will start with a keynote address from Sara-Jane Dunn from Microsoft, talking about some of the projects they are working on in the life science industry.

Along with a high calibre of keynote addresses, there will be interactive panels throughout the day on the following topics:

- Choosing the right business model
- New technologies in translational medicine
- Debate: Do charities make the best investors?

Interactive case studies are a feature of ON Helix and there will be plenty of time built in to each session for questions and debate from the floor.

As always, there will be lots of time during the day for networking, exchanging ideas and meeting new and old faces. During lunch, UCL Translational Research Office will be running a workshop, and the ice cream van, courtesy of PwC, will be returning!

For more information about ON Helix or to find out how you can get involved, please visit onhelix.com or email nadia@onenucleus.com.

We look forward to welcoming you to ON Helix 2017!

Dr Nadia Shivji, Events & Business Development Manager

The formal presentation by Princess Anne

Professor David Roblin speaking at ON Helix 2016

From left to right: Hamlet Rea, Dr Susan Windham-Bannister and Ted Agne
In October last year our Chief Executive, Harriet was invited to Buckingham Palace to receive an MBE (Member of the Order of the British Empire). The sun was out, the atmosphere was warm and celebratory, and it was a day to remember.

Harriet was delighted and afterwards said: ‘It was genuinely one of the most memorable days of my life. Princess Anne was presenting the awards and in our conversation she was very interested in One Nucleus and our membership, specifically asking how it feels to have 500 organisations as members. Like a shot I confirmed it is fantastic and that I feel blessed to have this role.’

The announcement was made in the Queen’s Birthday 2016 Honours List. The award is in recognition of Harriet’s services to the ‘healthcare and life sciences’ sector.

Upon receiving the honour, Jon Green, Chair of One Nucleus, on behalf of the One Nucleus Board said: ‘We are delighted that Harriet has been recognised for her contribution to life sciences and healthcare by the award of an MBE. It is a testament to her hard work and influence across the sector in the UK and across the globe’.

Harriet concluded: ‘I believe I am incredibly fortunate to do the job I do. Since joining One Nucleus there is not a day for me that hasn’t been exciting, uplifting, motivating or challenging - in a good way. Our members consistently and constantly impress all the One Nucleus team with their innovation and commitment to the people who are ultimately most important - patients. The support given to the team and myself make our jobs truly rewarding. To receive this honour is very humbling and I look forward to continuing to work together with my wonderful team, with the support of a fantastic Board, to help our members maximise their global competitiveness.’

Findacure is a UK charity that is building the rare disease community to drive research and develop treatments. We work to:

1. Empower patient groups to build their patient community, develop as a charity, and drive treatment research and development.

2. Promote collaboration between rare disease stakeholders to facilitate treatment development for all.

One Nucleus Charity of the Year 2017

www.findacure.org.uk | Tel: +44 (0)1223 222767
Partner Programme

The One Nucleus Partner Programme offers a fully integrated value proposition to organisations seeking to play an influential and visible role in the development of the life science community.

Key Benefits

- Raises profile of the partner with key investors, industry partners and stakeholders
- Offers a bespoke and tailored commitment to you from One Nucleus to help underpin and meet your business objectives
- Provides access to training courses and events for free or at vastly reduced cost to enable staff development
- Positions the partner as a key thought leader and in the sector in the minds of UK and international partners
- Provides significant savings over the normal costs of benefits including additional benefits only available to One Nucleus partners

Working with our Partners

Engaging with our corporate sponsors and partners in order to share insights, whether at events or via e-communications, is an important part of One Nucleus’ activities. Here are some examples of recent activities:

- One Nucleus led the delivery of a genomics for drug development leadership day hosted at the Wellcome Genome Campus in Hinxton and a microbiome event at Norwich Research Park. Both events gathered together 70 high-level delegates to discuss areas of research of extreme relevance to the parks hosting them. They were great opportunities to showcase local expertise and bring a wider audience to participate.

Plans are well underway to deliver further leadership and networking events in therapeutic fields such as advanced therapeutics and immunotherapy with Babraham Bioscience Technologies, whilst we also explore more commercial themes such as working with mid-sized pharma and engaging with the City. Our pharma partners such as AstraZeneca, MedImmune, Lilly, Roche, Amgen and J&J Innovation provide insights by offering numerous speakers for these events.

- Our professional services partners provide specialist insights for our members. Penningtons Manches has hosted breakfast sessions on key topics including how employers can secure IP around interim staff engagement, preparing for an IPO, and commercial property contracts. Deloitte and Taylor Wessing add to this knowledge sharing through hosting breakfasts, leadership events and CEO Dinners. Hume Brophy bring expertise in accessing capital and communications.

- Our One Nucleus partners that provide R&D facilities, such as Stevenage Bioscience Catalyst, BioMed Realty, London Bioscience Innovation Centre, Queen Mary BioEnterprises, Babraham Bioscience Technologies, and Norwich Research Park, engage to inform members and inward investors of their location options and to provide their own tenants with One Nucleus member benefits.

- Our CRO and technical advisory partners, such as PPD and UL Compliance, support our members through provision of expert speakers and insight in fields such clinical trial procedures and regulatory strategies.

- Finally, our partners in the business intelligence, communications, travel and bio-partnering space, which include Pharma Intelligence, PharmaVentures, First Sight Media, Pharmaceutical Training International, GlobalData, EBD Group, United Airlines, and Flight Centre Business Travel, provide our members with access to strategic advice and significant discounts on training, travel and major conferences.

For more information about the Partner Programme (and costs), please contact Tony Jones at tony@onenucleus.com.

Tony Jones, Director of Business Development
Genesis 2016: The Most Distinguished Event of the Year

The 16th annual Genesis conference, London's premier international life sciences and healthcare conference and networking event, was held on 1 December 2016 at the prestigious Queen Elizabeth II Centre. Over 800 delegates, representing 400 life sciences and healthcare organisations from 30 international markets, gathered to learn about 'The science, technology and business of 21st century biomedical innovation'. This notable event attracted a wide breadth and depth of delegates, including industry executives, investors, academic professionals, policy makers and small, medium and large businesses.

The conference was incredibly vibrant - a business hub where people had the opportunity to engage in discussions and debate via an innovative mix of presentations, panels, fireside chat and workshops. The delegates networked profusely in an environment that fostered new business dealings and partnerships. At Genesis 2016 participants had the opportunity to meet the right people in one place, and all in one day!

Medical innovation, biotech, pharma, digital health and medical technology were discussed throughout the conference program within the context of creative business, investment and leadership strategies. Over 70 renowned speakers, industry leaders and experts from around the world provided the latest updates on the sector via a series of presentations or shared their views through debates. In addition to the plenary talks and parallel sessions, there was an exhibition hall with over 85 exhibitors and the opportunity to set up one-to-one partnering meetings.

The conference opened with a warm welcome from Harriet, followed by a presentation from Mene Pangalos, AstraZeneca. Mike Ward, Global Director at SCRIP Intelligence, gave a biopharma review of the past year (2015) by summing up the 'winners' and 'losers' and pointing out upcoming trends. The Deputy Mayor of London for business, Rajesh Agrawal, gave the lunch keynote speech, outlining the potential of the UK in the life sciences sector and emphasising that London is open to innovation, technology, talent pool and business.

The theme of Genesis 2016 was reflected in different ways in the parallel and plenary sessions throughout the conference. The parallel sessions consisted of four streams, each featuring three panel discussions with linked themes. The four streams included discussions around deal structure case studies; therapeutic advances, with a focus on infectious diseases, dementia and chronic respiratory disorders; digital health; and nurturing innovation. All sessions had panels consisting of high-level industry executives and leaders in the sector, enabling extremely interesting and insightful discussions with a wide range of opinions voiced. The plenary sessions included a discussion on the factors that will drive growth in biopharma in the 21st century, a fireside chat with Bristol-Myers Squibb on the future of immuno-oncology, and a debate on bridging the development gap in the UK. Recorded videos and presentation slides for the parallel and plenary session can be found here www.genesisconference.com/genesis-2016/.

Genesis has created such a buzz over the 16 years that it has been running, and this year was no different. The doors opened at 8am, and at the end of the day discussions that were still ongoing were carried over into the main exhibition hall, accompanied by a dram of scotch.

And not only is there Genesis day, but also a whole host of Genesis fringe events that run throughout the week preceding the main conference. The Genesis 2016 Fringe included seminars on anti-microbial resistance, bio-manufacturing through to synthetic biology, nanotechnology and bioclusters among others.

Genesis definitely has plenty to offer to anyone with an interest in the pharma and biotech industries, and everyone who has a business in the life science market, not just in the UK. The date for Genesis 2017 is set for 14 December 2017. Go ahead - register and put it in your calendar!

Contributed by Maria Papademetriou, Healthcare Technology & Life Sciences Consultant
Purchasing and Support Suppliers

Merck (Sigma Aldrich) were awarded an extension for a further two years starting on the 1 April 2017 as the Preferred Supplier for Life Science Products.

‘Merck are pleased to announce that we will continue to offer a comprehensive and competitive deal on over 150,000 commonly used Life Science products to all One Nucleus Members.’

Our Support Suppliers continue to grow in number and offer discounts to ALL our members. For the full list please see the Purchasing pages on the One Nucleus website, and below for our newest suppliers.

Our newest Support Suppliers:
- Labmode - Biobanking Sample Storage Facilities
- Onyx Health - Marketing Communication and PR
- Interested in becoming a One Nucleus Support Supplier?

If you would like to offer your services to One Nucleus members please contact Aline.

Don’t forget we can perform a cost-benefit analysis for Silver members thinking of upgrading or new companies wishing to join as Gold members. Please contact Richard Dickinson on 01223 896453 or Richard@onenucleus.com

Richard Dickinson, Director of Specialist Services

One Nucleus Facilities Management

Don’t forget that One Nucleus offers Facilities Management consultancy to members at a discounted rate.

Richard Dickinson (richard@onenucleus.com or 01223 896453), One Nucleus’s Director of Specialist Services, has over 15 years’ experience as a Facilities Manager and has worked for more than 20 years in the life science sector.

He can provide project management for office and laboratory fitouts, and help with equipment service contracts, maintenance contracts, cleaning contracts, utility bills, insurance, purchasing and budgeting.

Contact Richard at richard@onenucleus.com or more information on our Facilities Management service.

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<th>Consultancy Day Rate</th>
<th>Gold Members</th>
<th>Silver Members</th>
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Are you looking for space as a start-up or for grow-on space?

One Nucleus provides project management for all your laboratory fit-outs.

- Setting up of laboratory equipment service contracts
- Building maintenance contracts
- Insurance
- Purchasing

- Cleaning contracts
- Utilities
- Budgeting

Contact: richard@onenucleus.com Tel: 01223 896453
One Nucleus Training Update

One Nucleus is dedicated to providing bespoke training and support to the life science and healthcare sector through a comprehensive portfolio of industry-specific training courses. One Nucleus recognises that a company’s employees are its most valuable asset. Many rapidly growing companies overlook the need for ongoing training of their staff.

We have developed a range of tailored training courses based on the needs of our member companies. We are constantly developing courses on new subjects as our members’ needs change.

Our current range of courses includes:

- Biological Safety: Management and Practice
- Health & Safety for Committee Members and Representatives
- Introduction to Contracts
- Introduction to Drug Development, for scientific and non-scientific professionals
- Introduction to Drug Discovery – from idea to clinical candidate
- Introduction to Managing Life Science Projects
- Laboratory Health & Safety
- Presentation Skills for Scientists
- The Safe Use and Management of Laboratory Gases

Training Providers

We are proud to be working with a network of training providers to deliver a range of softer skills courses including:

- Conducting Effective Performance Reviews and Appraisals
- Confident Communication
- Managing Work Time and Pressure
- Managing Change
- Negotiation Skills
- Networking Skills
- Powerful Persuasion
- Supervisor Training
- The First Steps in Selling
- Writing for Business and Science

Training Providers

Full details can be found on the One Nucleus website.

We continue to work in partnership with Pharmaceutical Training International (PTI), a global interactive training provider. Between the portfolios of One Nucleus and PTI, members can access discounts on over 80 tailored training courses covering the breadth of the life science industry.

In-house Courses – Let us Bring the Training to you

One area that has continued to grow in popularity is the development of our in-house offering.

This is where we tailor the training to suit your company and bring the course to you. This way, we can train 8-12 of your staff on your own premises, saving you time and travel expenses.

Do remember that One Nucleus members receive discounts on list prices for training courses. Members of the BIA, Bionow and CCRA receive a 10% discount off the non-member rate.

All our courses can be adapted and tailored to meet your needs so please contact training@onenucleus.com to find out more.

Claire Abrams, Project Manager: Genesis and Skills
## Dates for your Diary 2017

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<tr>
<th>Date</th>
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<td>Network Meeting</td>
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<td>Business Intelligence Breakfast</td>
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<tr>
<td>NOV 22</td>
<td>Network Meeting</td>
<td>Stevenage Bioscience Catalyst, Stevenage</td>
</tr>
<tr>
<td>DEC 13</td>
<td>Genesis Welcome Reception</td>
<td>London</td>
</tr>
<tr>
<td>DEC 14</td>
<td>Genesis</td>
<td>QEI Centre, London</td>
</tr>
</tbody>
</table>
New Members

- AGales Consulting Ltd
- Aglaris Ltd
- Antiverse Ltd
- Appleyard Lees IP LLP
- Bailey Fisher
- Biocreating.Wise Ltd
- Biotechspert
- BRAINCURES Ltd
- Cambridge Relocations
- CamPhos Therapeutics
- CBD Brothers
- Cerevance Ltd
- Clustermarket
- CLYZ Labs Limited
- Consultant - Linda Millett
- Flufarma
- Glass Box Thinking
- Innova Biosciences
- Institut de Recherche Pierre-Fabre
- Intract Pharma
- Invest Newcastle
- Kathryn Simpson Consulting Ltd
- Labmode Ltd
- MapMyGut
- Masthead Bioscience
- Maypond Ltd
- Microbiotica
- Mursla Ltd
- NanoTemper Technologies Ltd
- Onyx Health
- Oppilotech
- PCR Biosystems Ltd
- Ptox Ltd
- Quotient Clinical Ltd
- Repositive
- Roche Products Ltd
- ROMIL Ltd
- Sardis Capital Ltd
- Scot Lift Systems Ltd
- S-Curve Marketing
- SmithsonHill Ltd
- Storm Therapeutics Ltd
- Thames Valley Science Park
- The Innovation Practice
- The MedBIC
- Trio Medicines
- UL Compliance to Performance

Run the 2017 Royal Parks Half Marathon

Sunday 8th October
London’s premier
Life Science & Healthcare
networking conference

14 December 2017
QE II Centre
Westminster, London, UK

#ongc17
genesisconference.com