



#### **GLOBAL THERAPEUTIC ALLIANCE**

The Milner Therapeutics Institute encompasses both a research institute and a global outreach programme for collaboration.

Research in the **Milner Therapeutics Institute** is funded by:







Our outreach programme is through the **Global Therapeutic Alliance**, which aims to build a global research community working together across academia and industry, with Cambridge providing a hub of expertise. The **Milner Therapeutics Consortium** is central to this aim (*p4*), and the Alliance has been expanded with the Affiliated Company (*p8*) and Affiliated Institutions scheme (*p37*) to bring complementary expertise and resources to the community, and provide opportunity to extend collaborative links within and beyond Cambridge.



The Affiliated Venture Partners programme, operational since October 2017, provides mentoring and potential funding opportunities for the Milner Therapeutics Institute and its Global Therapeutic Alliance, and especially for our in-house company accelerator Start Codon.



#### MILNER THERAPEUTICS CONSORTIUM

The Milner Therapeutics
Consortium is an academicindustry partnership, active since
June 2015. This is underpinned
by a Consortium agreement,
designed to facilitate speedy
exchange of reagents and fund
collaborative research.























#### **ASTEX PHARMACEUTICALS**



Astex is a leader in innovative drug discovery and development, committed to the fight against cancer and diseases of the central nervous system. Astex is developing a proprietary pipeline of novel therapies and has multiple partnered products in development under collaborations with leading pharmaceutical companies. Astex is a wholly owned subsidiary of Otsuka Pharmaceutical Co. Ltd., based in Tokyo, Japan. Otsuka Pharmaceutical is a global healthcare company with the corporate philosophy: "Otsuka — people creating new products for better health worldwide." Otsuka researches, develops, manufactures and markets innovative and original products, with a focus on pharmaceutical products for the treatment of diseases and nutraceutical products for the maintenance of everyday health.

For more information about Astex Pharmaceuticals, please visit www.astx.com

For more information about Otsuka Pharmaceutical, please visit www.otsuka.com/en/

#### **ASTRAZENECA**



Partnerships and collaborations drive medical innovation today. Our approach to open innovation helps us collaborate with like-minded scientists at the interface of scientific disciplines where true creativity and innovation occurs.

Our scientists in discovery genomics, antibody engineering, antibody technology and screening sciences are already working side by side with scientists from the Medical Research Council and Cancer Research UK.

By being headquartered in Cambridge, we also bring business professionals into the ecosystem. In addition to our science and research collaborations, we support a number of business mentoring initiatives to help UK biotech entrepreneurs advance their business ideas. This includes several programmes run by the University of Cambridge Judge Business School's Entrepreneurship Centre, including Accelerate Cambridge.

AstraZeneca has been supporting the Accelerate Cambridge programme since March 2015. Over 70 AstraZeneca mentors are now involved in the programme and around 75 start-ups have benefitted from their experience so far.

We have over 150 collaborations underway with the University of Cambridge including PhD and PostDoc programmes. We also work with Addenbrooke's Hospital, Royal Papworth Hospital, The Medical Research Council Laboratory of Molecular Biology (LMB), The Cancer Research UK (CRUK) Cambridge Institute, The Wellcome Sanger Institute, Microsoft and members of the technology sector.

#### **EISAI**



Eisai is a leading global research and development-based pharmaceutical company headquartered in Japan. Everything we do is dedicated to giving our first thought to patients and their families through our human health care (hhc) philosophy. Our collective passion and dedication to patient care is the driving force behind our efforts to discover and develop innovative medicines in therapeutic areas with high unmet medical needs, including oncology and neurology.

Eisai's External Innovation strategy aims to contribute to human health care by prioritising disease prevention, prediction, and treatment based on investments and research collaboration. Eisai's neurology global External Innovation team is led from the EMEA Knowledge Centre (EKC) in Hatfield, Eisai's regional headquarters. The site also houses neurology research laboratories, oncology and neurology clinical research and a secondary manufacturing facility. We take a flexible approach to collaboration allowing us to engage in several different academic partnership models, including research sponsorship, joint research programmes, scientific start-up programmes, and 'open innovation' models involving public/private consortia.

Our mission is clear, we strive to make a significant long-lasting contribution to society in an ethical, compliant and sustainable way by embodying our *hhc* philosophy, in everything we do.

#### FERRING PHARMACEUTICALS



Ferring Pharmaceuticals is a research-driven, specialty biopharmaceutical company committed to helping people around the world build families and live better lives. Ferring Pharmaceuticals has more than 6500 employees operating in 56 countries and have products available in 100 countries worldwide. In 2019 the sales reached EUR 2 Billion.

Ferring is a leader in reproductive medicine and maternal health, and in specialty areas within gastroenterology and urology/uro-oncology. We have a fully integrated R&D organization with more than 700 scientists and use around 20% of our annual revenue on R&D. Today, over one third of the company's research and development investments goes towards finding innovative and personalized healthcare solutions to help mothers and babies, from conception to birth. Our R&D mindset is focused on identifying and developing innovations no matter their source. As a global pharmaceutical company, we pursue strategic partnerships that can leverage technologies and capabilities. Our goal is to create long-term mutually beneficial partnerships that advance science and bring innovative medicines to patients around the globe.

#### Key indications:

- Reproductive medicine & maternal health: Infertility (female & male), Implantation Support, Preterm Birth, Preeclampsia
- Gastroenterology: Crohn's disease, Ulcerative Colitis, Celiac disease
- Uro-oncology: Bladder cancer, Urothelial cancer, Prostate Cancer
- Strong interest in the microbiome and immunology across all three therapeutic areas.

#### **GSK**



Less than 10% of drugs undergoing clinical testing become medicines. We know that medicines with genetic validation succeed nearly twice as often as those without. Our approach is focused on science related to the immune system and the use of human genetics to help us accelerate the pace at which we develop and deliver transformational medicines.

Advanced technologies are central to our new R&D approach. We are developing a core capability in artificial intelligence and machine learning, to enhance our ability to interpret and understand genetics and genomic data. We are also investing in functional genomics, applying techniques for gene modification such as CRISPR technology, to help discover and validate potential targets.

Partnerships. The industry needs more innovative medicines for patients and the future is exciting, but we know we do not have all the ideas and continue to look outside our four walls for medicines and vaccines with the potential to become transformational. We'd love to talk to you if you think your idea has promise.

**COVID-19.** GSK is supporting global efforts to tackle the virus. Since the outbreak, we have been actively exploring ways to help, with our science and expertise, alongside protecting the health and wellbeing of our people and managing our global supply chains to support patients and consumers who depend on our products. For further details see: www.gsk.com/en-gb/media/resource-centre/ourcontribution-to-the-fight-against-2019-ncov/

#### **Annual report:**

https://www.gsk.com/media/5894/annual-report.pdf

#### **JOHNSON & JOHNSON INNOVATION**

## Johnson-Johnson

INNOVATIO

Johnson & Johnson Innovation seeks to positively impact human health through innovation.

Johnson & Johnson Innovation in EMEA focuses on accelerating all stages of innovation across the region and forming collaborations between entrepreneurs and the Johnson & Johnson Family of Companies. Johnson & Johnson Innovation provides scientists, entrepreneurs and emerging companies with one-stop access to science and technology experts who can facilitate collaborations across the pharmaceutical, medical device and consumer sectors.

In our Pharmaceuticals sector we are divided into six therapeutic areas that run disease and pathway focused portfolios, which are fuelled by world class functions. In our areas of focus\*, we drive research from inception/idea through new indications for marketed products until loss of exclusivity.

Under the Johnson & Johnson Innovation umbrella of businesses, we connect with innovators through our Innovation Centre in London, UK, our incubator JLABS @ BE in Belgium, our strategic venture capital arm Johnson & Johnson Innovation — JJDC, Inc. and our Janssen Business Development teams to create customized deals and novel collaborations that speed development of innovations to solve unmet needs in consumers and patients.

For more information about Johnson & Johnson Innovation, please visit:www.jnjinnovation.com or follow us on Twitter @iniinnovation

#### **PFIZER**



At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products, including innovative medicines and vaccines. Many of those concepts are advanced in collaboration with key leaders across the scientific spectrum via our range of collaborative models (www.pfizer.com/science/collaboration). Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments, and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments, and local communities to support and expand access to reliable, affordable health care around the world. For more than 170 years, Pfizer has worked to make a difference for all who rely on us.

To learn more, please visit us on www.pfizer.com and follow us on Twitter at @Pfizer.

<sup>\*</sup> Cardiovascular, Metabolism & Retinal Disease; Immunology; Infectious Diseases and Vaccines; Neuroscience; Oncology; and Pulmonary Hypertension

#### **SHIONOGI**



Do you believe that your research has potential to deliver an innovation that improves healthcare and provides socio-economic impact beyond academia?

If your answer is 'yes', Shionogi is here to work with you to realise the potential of your research.

Shionogi is a research-intensive global pharmaceutical company having its roots in Japan. The company's achievement in delivering many life-saving healthcare products stems from successful collaborations with partners in academic communities and biotech/pharma companies. As scientific research does not happen in isolation, Shionogi researchers pursue discovery through collaborations with scientists around the globe who share their passion in bringing innovations to the real world. Partnership with Shionogi involves working in a crosscultural/international environment, setting a research objective with a view of therapeutics development, and building a shared commitment to deliver a win-win outcome.

Shionogi seeks research partners in its core therapeutic areas including infectious diseases and neuroscience (pain, psychiatric disorders, dementia); additionally, in areas of healthy aging, metabolic disorders and immuno-oncology. Shionogi also pursues research collaborations in new development areas including nucleotide and peptide therapeutics, microbiome therapeutics, Al-powered/data-driven drug discovery, and digital health technologies.

Working together, we can deliver a significant impact on improving health and quality of life.

#### AFFILIATED COMPANIES

The Affiliated Company scheme, established in October 2016, now includes 54 organizations which bring diverse expertise and resource to the Milner network.

#### PHARMA & BIOTECH





#### **ABCAM**

# abcam

As a global life sciences company, Abcam identifies, develops, and distributes high-quality biological reagents and tools that are crucial to research, drug discovery and diagnostics. Working across the industry, the Company supports life scientists to achieve their mission, faster. Abcam partners with life science organisations to co-create novel binders for use in drug discovery, in vitro diagnostics and therapeutics, driven by the Company's proprietary discovery platforms and world-leading antibody expertise. By constantly innovating its binders and assays, Abcam is helping advance the global understanding of biology and causes of disease, which enables new treatments and improved health. The Company's pioneering data-sharing approach gives scientists increased confidence in their results by providing validation, user comments and peer-reviewed citations for its 110,000 products. With twelve sites globally, many of Abcam's 1,100 strong team are co-located in the world's leading life science research hubs, complementing a global network of services and support.

Contact: www.abcam.com

#### **ACTIVE MOTIF**



**Enabling Epigenetics Research** 

Active Motif is the industry leader in developing and delivering innovative tools to enable epigenetics and gene regulation research. We are committed to providing the highest quality products along with superior service & support to the life science, clinical and pharmaceutical/drug discovery communities. Whether you are an expert in the field of epigenetics or a researcher interested in integrating epigenetics research into your studies, our comprehensive portfolio of experts will enable you to tackle your most difficult scientific challenges.

#### We provide:

- A novel multiplex sonicator, PIXULTM for epi-omics experiments.
- Innovative products for chromatin immunoprecipitation and DNA methylation.
- Epigenetic services.
- Antibodies for ChIP and ChIP-Seq.
- Recombinant proteins and substrates.
- Multiplex histone PTM quantitation products and services.
- ATACseq services for single cell, cell cultures and tissues.

**Contact:** www.activemotif.com Sarantis Chlamydas | chlamydas@activemotif.com

#### **ALVIVO**



Al VIVO is a Cambridge-based company providing an intelligent systems pharmacology platform to accelerate drug discovery and development. We uniquely combine systems biology, machine learning and Al to build a disruptive technology that enables unexpected discoveries and orders-of-magnitude gains in scalability, speed and cost. Our team of systems biologists, system pharmacologists and machine learning experts believe that biology, health and disease are all about balances and imbalances. We developed a proprietary discovery pipeline to represent I) balances in a healthy normal condition, and 2) imbalances induced by diseases, treatments and the microbiome.

We then use our optimised Al-driven prediction engine to link these balances and imbalances with mechanisms, indications and chemical space. We use this data to alleviate pathological imbalances and restore stability with unprecedented accuracy by I) identifying novel unexpected modulation strategies (e.g. mechanisms, pathways, targets), and 2) predicting corresponding modulators (e.g. compounds, peptides, metabolites). This disruptive platform speeds up and de-risks the discovery process by concurrently identifying multiple candidates and pre-selecting the best opportunities through experimental validation. We then offer successful validations as IP-protected data packages to be acquired or in-licensed.

Al VIVO is currently engaged in predicting, validating and developing novel mechanisms and pathways for selected disease areas; drug combination candidates for drug repositioning and life cycle management; microbiome-based solutions and product development. We partner with pharma, biotech, CROs and academics.

Contact: www.aivivo.co

#### **ALLOY THERAPEUTICS**



Alloy Therapeutics is a biotechnology company developing and commercialising drug discovery platforms and services. Alloy was founded in 2018 with European research and services headquarters in Cambridge, UK and North American research and services headquarters in Boston, MA. Alloy works with partners ranging from scientist entrepreneurs in academia and seed stage biotech startups, to small and medium sized biotechs and Fortune 50 biopharma.

At Alloy, we believe our industry should compete on getting the best drugs to patients as quickly as possible. Using a novel business and licensing model, we do this by working collaboratively with the global scientific and business community and through our commitment to long-term, continuous platform improvement.

Alloy's mission is to provide broad, non-exclusive access to the highest quality drug discovery and development platforms and services to empower the global scientific community seeking to discover and develop drugs. We envision a scientific world where we all compete around better therapeutics, not exclusive access to the best tools. Our first platform, the Alloy-Gx Mouse is a best-inclass, genetically engineered *in vivo* discovery platform for generating fully-human monoclonal antibodies.

Alloy Discovery Services in Boston, MA and Cambridge, UK can provide end-to-end human antibody discovery for you or we can ship our mice to your lab or the CRO of your choice. May the best drug win.

Contact: www.alloytx.com

#### **AMGEN**

### **AMGEN**®

Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology.

Amgen focuses on areas of high unmet medical need and leverages its expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Contact: www.amgen.com

#### APTAMER GROUP



The Aptamer Group is a world leader in the development of aptamers. Aptamers are ssDNA or ssRNA molecules that possess antibody-like affinity with the benefit of chemical synthesis, ease of modification and conjugation. Aptamers bind to a wide range of molecules with high specificity, including proteins, peptides, cells, tissues & excitingly: small molecules. Aptamers can also be raised against toxic or poorly immunogenic targets where antibodies cannot make those suitable replacements in many applications. This is a very exciting concept for the future of therapeutic and diagnostic markets as we now have a means of assessing drug targets, key proteins and nucleic acids known to play a role in disease that were previously thought to be out of reach.

The aptamers we develop are used in a variety of areas of life sciences research including:

- Protein purification
- Lateral flow assay
- ELISA
- Biosensors
- Fluorescence microscopy
- Flow cytometry
- Immunoprecipitation

We develop aptamers for use in clinical and non-clinical diagnostics and as candidate molecules for targeted therapeutics. We have also developed a first in-kind biomarker discovery process, which is set to breathe new life into the proteomics market. A recent report has projected that the aptamer market will be worth approximately \$5bn by 2025, so we want to work with companies like yours to establish aptamers as a leading technology.

Contact: www.aptamergroup.co.uk



Azeria Therapeutics is the world's first pioneer factor drug discovery company developing breakthrough treatments for hormone resistant breast and prostate cancer patients where there are significant areas of unmet clinical need.

Founded in 2017 by Dr Jason Carroll, a leading expert in pioneer factors in cancer, Azeria is using its proprietary suite of approaches encompassing proteomics, bioinformatics, and genomics to identify biologically meaningful and chemically tractable targets to enable a pipeline of small molecules designed to inhibit pioneer factors.

Pioneer factors dictate where in the genome the transcription factors associate with DNA and what genes are regulated, and in many cases, are essential for transcription factor DNA binding. In its lead programme, Azeria is targeting the essential pioneer factor FOXAI, which has shown to be pivotal in the tumour development and maintenance of Estrogen receptor (ER) positive luminal breast cancer and is also thought to be critical in the development of prostate cancer.

Based in Cambridge, Azeria successfully raised £4 million in a Series A financing in 2018, provided by specialist oncology investment fund, the CRT Pioneer Fund, managed by Sixth Element Capital.

Contact: www.azeriatherapeutics.com

#### BenevolentAl

Benevolent AI, founded in 2013, creates and applies AI technologies to transform the way medicines are discovered and developed. The company seeks to improve patient's lives by applying technology designed to generate better data decision making and in doing so lower drug development costs, decrease failure rates and increase the speed at which medicines are generated. The company has developed the Benevolent Platform — a discovery platform used by BenevolentAI scientists to find new ways to treat disease and personalise drugs to patients.

Contact: www.benevolent.ai

#### **BIOASCENT**

# bio:ascent

Founded in 2013, BioAscent is a leading provider of integrated drug discovery services based at the former Organon/MSD R&D site in Newhouse, Scotland.

We specialise in working with academic groups and biotechs to successfully progress their small molecule drug discovery programs. Our drug discovery services include de novo assay development, target analysis and bespoke screening strategies, compound screening, medicinal and synthetic chemistry, computational chemistry and compound management, all with access to a library of 125K lead-like compounds via the Compound Cloud.

Contact: www.bioascent.com

#### **BIOMAX INFORMATICS**



Biomax Informatics provides services and software solutions for efficient decision making and knowledge management at the intersection of life sciences, healthcare and information technologies. Biomax facilitates digital transformation within biotech, pharma, agriculture, food and chemical industries as well as research institutes.

Biomax offers a range of standard products, based on the core technology knowledge management platform BioXM™, which are synergistically interrelated.

- AlLANI<sup>™</sup>, the Artificial Intelligence LANguage Interface, provides unique semantic search capabilities that catalyze digital change and accelerate the innovation cycle.
- NeuroXM<sup>™</sup> is the one-stop-shop to decipher brain physiology.
- The Clinical Integration System ensures access to real world evidence data, which is critical to effectively and robustly train Artificial Intelligence to support clinical decisions at the point of care.

With more than 20 years of experience and around 50 employees — including numerous life scientists, data scientists and software developers with a scientific background — Biomax is a competent partner.

Participation in multinational research projects keeps the Biomax team up-to-date with the latest research and technology and ensures that Biomax delivers state-of-theart solutions to all customers.

Founded in 1997, Biomax is ISO 9001 and ISO 27001 certified and is headquartered in Planegg near Munich, Germany.

Contact: www.biomax.com

#### BIT BIO



The widespread use of human induced pluripotent stem cell (hiPSC) derived mature cell types has been restricted by complex and suboptimal differentiation protocols. The Bit Bio novel cellular reprogramming approach supported by a uniquely engineered genetic switch, opti-ox, is able to largely overcome these restrictions. This proprietary technology enables homogeneous and efficient differentiation of entire hiPSC cultures through tightly controlled expression of selected transcription factors. opti-ox reprogramming enables the consistent manufacture of homogenous and mature hiPSCs derived functional cells within days, offering access to the highest quality cellular models with simple protocols.

'Bit Bio' represents the two fields — coding and biology — that determine the identity of every human cell. Ultimately, bits are the building blocks of code, just as cells are the building blocks of life. This is reflective of what Bit Bio does: precise reprogramming of human stem cells. Bit Bio's mission and focus are to enable a new generation of therapies through democratising access to consistent and functional human cells. This will improve research and drug discovery, lower the cost and extend the application of cell therapies.

Contact: Tonya Frolov | www.bit.bio

#### BIOSCEPTRE



Biosceptre is a biopharmaceutical company focused on CAR T-cell therapy and immune-oncology treatment, that's committed to bringing a new generation of targeted therapies to a wide range of cancer patients. Founded on science from the University of Sydney, Australia, Biosceptre is headquartered in the UK and has research laboratories in both Sydney and Cambridge, England. With world-class scientific leadership, Biosceptre has established a new oncology target, nfP2X7, that's shown to be present on the majority of cancers and over half of all tumours. As the leaders in this area, we now have several CART-cell therapies that exploit this target approaching the clinical stage that, if successful, have the potential to deliver real improvements to outcomes for millions of cancer patients worldwide. Supported by the ongoing collaboration with global experts and major research institutes, Biosceptre continues to drive innovation and pioneer the future of targeted oncology therapeutics.

#### BLACK BELT TX

# BLACK BELT TX

Black Belt TX is a privately-held, immuno-oncology company focused on the discovery and development of novel therapeutics that utilize the body's immune system to fight cancer. Black Belt TX has been created as a spin-off from Tusk Therapeutics which was acquired by Roche in September 2018. The team has a deep understanding of cancer immunology, a proven track-record and has strong ties with world-renowned scientific advisors. The company is funded by Droia Oncology Ventures, a specialist venture capital firm, investing solely in oncology companies. Black Belt TX is in the preclinical stages and operates from the Stevenage Bioscience Catalyst in Stevenage, UK.

#### **CAMBRIDGE EPIGENETIX**



Cambridge Epigenetix has provided academics with tools to measure epigenetic modifications in the genome since 2013. We focus on utilising epigenetics to improve human health with early diagnostics and disease monitoring.

The epigenetic modification 5-hydroxymethylcytosine (5hmC) has been shown to mark transcriptionally active genes and regulatory regions (gene enhancers). Unlike the relatively static genome sequence, 5hmC is highly dynamic and changes occur early in disease development. Gene enhancers are a major determinant of cell/tissue-specific transcriptional activity and 5hmC patterns could provide crucial information regarding the cell/tissue of origin.

The link between 5hmC, active genes and tissue-specific enhancers supports the considerable potential for 5hmC to be exploited for detection and monitoring of disease states, from both solid and liquid biopsies.

We are focusing on the development of early diagnostics using our proprietary 5hmC technology (HMCP). This technique is well suited to liquid biopsy or cfDNA analysis as the input required is low (typically 3–5ng cfDNA). We also partner with key opinion leaders working in areas where 5hmC has potential to solve clinical problems.

Professor Rebecca Fitzgerald is an MRC Programme Leader at the MRC Cancer Unit. Her group is working to identify ways to determine individuals with Barrett's Oesophagus at risk of cancer development. Correctly identifying high risk groups would enable optimal care for these individuals whilst reducing the burden on endoscopy units for those at low risk. We have been collaborating with the Fitzgerald group, by providing our HMCP technology to see if 5hmC may be a suitable biomarker.

**Contact:** www.cambridge-epigenetix.com

#### CAMENA BIOSCIENCE



Camena Bioscience is a synthetic biology company that developed gSynth<sup>™</sup>, an enzymatic, rapid and highly accurate DNA, RNA and XNA synthesis technology. For more information on our rapid and accurate synthesis technology, please visit our website www.camenabio.com or contact info@camenabio.com

**Contact:** www.camenabio.com

Steve Harvey | steve@camenabio.com

#### CANTABIO PHARMACEUTICALS



Cantabio Pharmaceuticals Inc. is a preclinical stage biotechnology company focusing on the research and development of disease modifying therapeutics candidates for Alzheimer's disease (AD), Parkinson's disease (PD) and Type 2 Diabetes (T2D). Through its proprietary drug discovery programs Cantabio is targeting the reduction of protein aggregation, oxidative and glyoxal stress, which are believed to be some of the main causes of AD and PD. Cantabio's research strategy integrates a detailed therapeutic focus, target family biophysics, and drug discovery technology and expertise into an innovative drug discovery platform to develop small molecule pharmacological chaperones for clinical trials. These small molecule pharmacological chaperones act to stabilize the native functional form of selected protein targets against misfolding when they lose their function and/or become toxic. In addition, the company is developing therapeutic proteins that can pass through the blood-brain barrier to supplement existing levels of proteins which display loss of function during disease conditions. Cantabio is specifically developing the following therapeutic programs: (I) CB101: small molecule pharmacological chaperones targeting the DJ-I protein for PD; (2) CB201: engineered cell-penetrant DJ-I protein for T2D; (3) CB301: small molecule pharmacological chaperones targeting the Tau protein for AD. The company has operations in Silicon Valley (USA), Cambridge (UK) and Budapest (Hungary), where multidisciplinary in-house R&D is carried out in our laboratory facility.

Cantabio also has strong academic links with a number of academic institutions including the University of Cambridge, allowing cutting edge academic research support to Cantabio's therapeutic programs.

Contact: www.cantabio.com

#### **CELL GUIDANCE SYSTEMS**



Cell Guidance Systems' primary focus is PODS®, a protein delivery technology which generates zero-order delivery kinetics over periods up to two months.

Protein instability is a recurring problem in the development of effective protein drugs, diagnostic assay controls, and delivery of effective vaccines. Cell Guidance Systems PODS platform technology utilizes a patented technology to produce polyhedrin crystals containing constrained target proteins. This production process results in proteins with significantly enhanced stability in storage and zero-order release kinetics. Working in collaboration with world-class research institutes and other companies, Cell Guidance Systems is developing PODS proteins for use as therapeutics and cell survival agents for regenerative medicine.

Contact: www.cellgs.com

Michael Jones | michaeljones@cellgs.com

#### **CELL SIGNALING TECHNOLOGIES**



Founded by research scientists in 1999, Cell Signaling Technology (CST) is a private, family-owned company with over 400 employees worldwide. Active in the field of applied systems biology research, particularly as it relates to cancer, CST understands the importance of using antibodies with high levels of specificity and lot-to-lot consistency. That's why we produce all of our antibodies in-house and perform painstaking validations for multiple applications. As part of our services, we are also able to cater for custom formulations, lot reservations, custom conjugations as well as custom antibody production. And the same CST scientists who produce our antibodies also provide technical support for customers, helping them design experiments, troubleshoot, and achieve reliable results.

**Contact:** Mark Twigden | www.cellsignal.eu

#### **CENSO BIOTECHNOLOGIES**



Censo Biotechnologies is a specialist discovery service company supporting the discovery and development of new targeted treatments for neurodegenerative, neuroinflammatory and rare diseases, by using stem cell technology to predict how drugs will behave across a given population. Censo provides access to existing human iPSC lines, and ethically sources human tissue, both healthy and with clinically relevant disease specific mutations, to custom create new clinically relevant human patient iPSC lines for diseases such as Alzheimer's, Parkinson's, ataxias and ALS. Using highly reproducible differentiation protocols to create cell types like microglia, astrocytes, cortical and sensory neurons, we offer both customised and standard phenotypic assays to deliver disease relevant compound characterisation, and studies of genotype-phenotype relationships, providing our clients with an understanding of human therapeutic efficacy and patient population therapeutic response variability.

Contact: www.censobio.com

#### **CYTIVA**



We are a global provider of technologies and services that advance and accelerate the development and manufacture of therapeutics. We are nearly 7000 associates with operations in 40 countries. We are a trusted partner to customers who do things ranging from fundamental biological research to making life-saving vaccines, biologic drugs and novel cell and gene therapies. Some of our customers use our products in industries outside of biological research.

#### What we believe

Our vision is a world in which access to life-changing therapies transforms human health. Our everyday work leads us step by step toward this vision.

#### What we do

Our mission is advancing and accelerating therapeutics. We supply the tools and services — the pots, pans, soups and sauces — that help our customers do their work better, faster, and safer. Some of our products, such as filters, can also support a range of applications in industries outside of biological research. Everything we do is essential to the entire process — from start to finish and in between. We advance the work of our customers for better patient outcomes.

Contact: www.cytivalifesciences.com

#### **DEFINIGEN**

### DefiniGEN.

DefiniGEN has world-leading expertise in the area of iPSC production and metabolic disease modelling. The company has a unique platform technology for generating phenotypically validated human cell disease models for a range of rare metabolic and liver diseases, to optimize preclinical drug discovery. DefiniGEN's proprietary OptiDIFF platform generates terminally differentiated human cells of endodermal lineage from iPSCs. We provide iPSC-derived hepatocytes, pancreatic cells, and intestinal organoids from healthy and diseased donors which closely resemble human primary cells. Off-the-shelf products include:

- Alpha-I antitrypsin deficiency
- Glycogen storage disease type Ia
- Familial hypercholesterolemia
- MODY3 Diabetes
- Neonatal Diabetes

The application of these technologies in drug discovery provides pharmaceutical companies with more predictive *in vitro* human cell products enabling safer and more effective treatments. This technology platform can be combined with our cutting edge CRISPR gene-editing service to produce a wide range of bespoke validated disease model cell products enabling pharmaceutical companies to effectively reprofile and reposition their drug libraries.

**Contact:** www.definigen.com
Richard Willock richard.willock@definigen.com

#### DIAGENODE



Diagenode is a leading global provider of complete instrument, reagent and service-based solutions for epigenetics research, biological sample preparation, and diagnostics assays based in Liege, Belgium and NJ, USA. The company offers innovative Bioruptor® shearing and IP-Star® automation instruments, reagent kits, and high-quality antibodies to streamline DNA methylation, ChIP, and ChIP-seq workflows.

Our Megaruptor shearing system for long fragment generation (3–100Kb) in sequencing and our dual index library prep kit for NGS offers multiplexing for up to 384 samples. We have also recently expanded our range of wet lab epigenetics assay services to include targeted DNA methylation analysis via EPIC arrays or custom probes as well as ChIP,ATAC-seq, RRBS, MeDIP and hMeDIP.

At Diagenode, our goal is to build products with pride and the highest level of performance. Our team of epigenetics experts develop products by getting feedback from our customers as well as the scientific and medical communities around us. We strive to develop superior and easy-to-use products to bring epigenetics research and diagnostics to new frontiers.

Contact: www.diagenode.com
Susanna Lovell | slo@diagenode.com

#### **DOMAINEX**



Domainex is a fully integrated drug discovery CRO with a reputation for speed and innovation. Built on an exceptional track record of drug candidate delivery, it has a world-class discovery team with the unrivalled track record of an average of one candidate drug delivered every year.

Domainex offers the following services:

- Medicinal chemistry incorporating intellectual design and efficient synthetic chemistry under the mantra 'every compound counts'
- Stand-alone computer-aided drug design and bioanalytical chemistry services
- Protein cloning, expression, purification and characterisation using E coli and baculovirus-infected insect cell systems
- Combinatorial Domain Hunting, Domainex's proprietary technology which enables the rapid identification of stable and soluble domains of proteins
- A highly differentiated and efficient approach to hit discovery, encompassing: LeadBuilder, Domainex's proprietary virtual screening platform; and Fragment-Builder, Domainex's integrated FBDD platform
- Assay development and compound screening covering biochemical, biophysical and cell-based systems to support all stages of drug discovery
- X-ray crystallography services incorporating dedicated beamline time at the Diamond Light Source beamline

Domainex's discovery platform technologies enable rapid progression of drug discovery projects, from drug target through to candidate drug; even for challenging drug targets. In addition, Domainex's successes with academic drug discovery collaborations showcase our approaches to these programmes.

Contact: www.domainex.co.uk

#### **EAGLE GENOMICS**



Eagle Genomics' award-winning AI augmented knowledge discovery platform is revolutionising how scientists conduct life sciences research and is bridging the gap between data and new insights in a rapid, systematic and traceable way. It puts data science at the fingertips of biologists to drastically reduce time and cost of research, enabling customers to achieve radical productivity improvements and true data driven discovery. Eagle Genomics are thought leaders in life sciences smart data management and analysis. Over the last decade, we have collaborated with a range of blue-chip clients in the healthcare, personal care and agritech sectors, enabling them to deliver game changing products and technologies into their respective markets. At Eagle Genomics, we innovate at the intersection of biology, data science and bioinformatics. We combine our knowledge in these fields with best in class enterprise software skills to achieve an audacious goal — to develop the enterprise information architecture for the genomics era. We are also proud of our strong links to research and development in the critical emerging markets of human genomics and microbiomics. We are headquartered in the epicentre of genomic research at the Wellcome Campus in Cambridge, with locations in London's Knowledge Quarter, the New York Genome Centre and Station F in Paris.

Contact: www.eaglegenomics.com

#### **EUROFINS DISCOVERY**



#### DISCOVERY

Eurofins Discovery supports Drug Discovery through the combined expertise of Cerep, DiscoverX, Panlabs, Villapharma, and Selcia Drug Discovery. We offer a broad portfolio including medicinal and synthetic chemistry, *in vitro* pharmacology products and services, cell-based phenotypic assays, ADME-Tox, *in vivo* drug safety and efficacy, custom proteins, and assay development services.

Eurofins Discovery also offers DiscoveryOne, an integrated drug discovery platform providing project management, expertise and resource, to support your project from target identification and validation, through hit identification, lead optimization and on-time delivery of robust preclinical candidates. The highly industry experienced DiscoveryOne team has a 100% track record of delivering preclinical candidates for our customers, with a number entering the clinic most recently. Eurofins Discovery has been a trusted life science partner for BigPharma, Biotechs, Academic groups and Not-for-profit organisations. Through DiscoveryOne our customers can simplify the outsourcing of contracts to a single provider.

Trust our DiscoveryOne team to be your hand-in-hand partner and provide innovative solutions for your drug discovery endeavours.

**Contact:** www.eurofinsdiscoveryservices.com

#### **GENEDATA**



Genedata transforms life science data into intelligence with a portfolio of advanced software solutions and scientific consulting. With award-winning, user-friendly platforms and deep domain expertise, Genedata enables dramatic increases in productivity and quality of research, development, and production.

The Genedata portfolio of advanced software solutions is built on open, enterprise-level client-server architecture, which can be deployed to a variety of infrastructures, including on-premises or cloud-based installations. Genedata solutions deliver a high degree of built-in business logic, integration, performance, and scalability to researchers, scientists, and managers. Genedata also offers a range of services and support, from installation and customization to global roll-out support, training, data analysis, application consulting and IT consulting services, all tailored to clients' specific needs. Highly skilled professionals bring extensive domain knowledge and experience to your organization.

Today, the world's leading pharmaceutical, agrochemical, and biotechnology companies, as well as some of the most innovative life science research institutions, rely on Genedata. Genedata recently released its latest version of Genedata Profiler®, the enterprise solution of choice for efficient and effective omic-based translational and exploratory clinical research that enables global research organizations to achieve their vision of precision medicine. Breaking down data silos and allowing controlled access to every research team member, the platform provides self-service data analytics that generate valuable scientific insights at scale, while enabling compliance with increasingly complex data privacy laws and regulatory requirements.

Contact: www.genedata.com

#### **GENESTACK**



Genestack brings together bioinformatics and software development expertise to provide solutions for data and metadata management, as well as analysis pipelines and a range of interactive visual analytics tools.

Our portfolio of products and services includes a combination of off-the-shelf modules, customisation, and new apps prototyping. We draw on decades of industry and academic experience to provide customers with tailored data management solutions and scientific consultancy.

We work with clients in the pharmaceutical, consumer goods, biotechnology and healthcare industries to help them get the most out of their data and maximise the return on investment into data production. We aim to make the lives of people who do bioinformatics simpler. Our goal is to help our users leverage high-throughput multi-omics data and fast-track drug discovery, precision medicine and bioinformatics research in the post-genomic era.

Currently we are releasing Omics Data Manager (ODM), a data management system for multi-omics, biological and healthcare data. ODM is a software product that enables its users to create a FAIR data catalogue, by solving common pain points in data management such as data silos, lack of metadata standards, and unclear data relationships. ODM is the result of a fruitful collaboration with a top pharmaceutical company.

Contact: www.genestack.com

#### **GENOME BIOLOGICS**



Genome Biologics are leaders in therapeutic target discovery and RNA-targeted therapies in Cardiovascular Disease (CVD). Our technology platforms seamlessly integrate synergistically to accelerate the development of therapies to treat illnesses, including rare CVD, where no other treatments have proven effective or ever existed.

Genome Biologics have developed a rich therapy pipeline in Hypertrophic Cardiomyopathy, Cardiotoxicity, Heart failure & Rare Disease, with our first compounds, developed & partnered, to enter Phase I clinical trials in 2021.

Our Disruptive Platform for Al-driven cardiovascular disease (CVD) modelling comprises of two key integrated state-of-the-art platform technologies, translating Al-driven big data analysis into precision preclinical disease models.

GENIMAPS®, our Al-driven computational platform, analyzes massive datasets of cardiovascular disease-relevant genes and expression profiles to map complex cardiovascular diseases with high accuracy that reflects real patient genetics.

GENISYST®, our patented transgenic technology, uses GENIMAPS® signatures as inputs to rapidly produce *in vitro*, ex vivo and *in vivo* complex cardiovascular disease models for drug testing. Combined with our patented human cardiac organoid system, we are able to rapidly evaluate the effects of drug candidates on all cell types reflected in the human heart, for precise CVD modelling and subsequent translation into the appropriate animal model using significantly reduced numbers.

Contact: www.geneomebiologics.com

#### **HEALX**

# healx

Healx is an Al-powered and patient-inspired technology company, from the Cambridge Cluster (UK), focused on accelerating the discovery and development of rare disease treatments.

Combining their technology with patient insights and drug discovery expertise, Healx are able to cut the discovery-to-clinic timeline to as little as 24 months — along with the associated costs and failure rates.

There are 7,000 known rare diseases that affect 400 million people worldwide and 95% of these diseases still do not have an approved treatment. Healx believe that every rare disease patient deserves a treatment and have made it their mission to quickly translate new rare disease treatments towards the clinic.

Healx was named AI Company of the Year at the 2019 Cambridge Independent Science and Technology Awards, featured in the global Disrupt 100 list for 2020 and most recently joined Tech Nation's Future Fifty accelerator programme for leading UK tech companies.

Contact: www.healx.io

#### **IMMUNDNZ**



Immundnz is a globally unique CRO providing customised *in vitro* and immune response studies for preclinical drug analysis. Immundnz provides customised and experimental immunology solutions using *in vitro* human cell models. Our expertise is based on 35 years+ of experience in research in understanding drug and disease mechanisms, signalling and cellular pathways and experimental immune modelling. While we work on primary cells, we provide unique models using cell lines. These models are very useful in studies in current oncology/IO and other inflammatory conditions and can be customised to fit the requirement of the client.

Immundnz has a laboratory capacity for cell cultures, immunology, bioanalytical and cellular assays. We offer bespoke solutions that require immune modelling and laboratory based *in vitro* immunology testing of drugs in areas like immuno-oncology, auto-immunity, inflammation, allergy and systemic disease. Assays include a.o. *in vitro* tissue damage assays, DC assays, phagocytosis assays, macrophage M1/M2 polarisation assays, Th1/Th2/Th17 differentiation assays and immunoproteomics.

Immundnz is among the few groups who can generate and demonstrate the use of dendritic cells from monocytic cell lines and T cells in activation studies.

Contact: www.immundnz.com

Masih Alam | masih.alam@immundnz.com

#### **INTELLEGENS**



Intellegens creates solutions that encapsulate our unique deep learning algorithm Alchemite, capable of training artificial intelligence models from very sparse or noisy data. Since spinning out from the University of Cambridge, we have been partnering in multiple domains, including drug discovery, healthcare and infrastructure, bringing our generic technique to bear on high-value commercial problems.

We are seeking partners who are working with large, incomplete datasets or experimental data, where our ground-breaking machine learning approach will be able to add most value.

**Contact:** www.intellegens.co.uk Tom Whitehead | Tom@intellegens.ai

#### JW PHARMACEUTICAL



Taking the first step in 1945, W Pharmaceutical identified a market for domestic therapeutic drugs which was aligned with its philosophy of respecting life and pioneering spirit. |W Pharmaceutical established a comprehensive research center in 1983 based on accumulated technology and outstanding capability. Based on the long history and know-how in treatments and medicine, JW Pharmaceutical are constantly researching and developing innovative new medicines. We are targeting diseases with high unmet medical needs, concentrating on the development of innovative new medicines using JW's unique technology, and conducting research activities in line with global trends through open innovation. Our research focuses are Innovation R&D, Nutrition therapy and Diagnostics. 22 kinds of pipelines are being developed, in disease areas including cancer, immunological disease, cardiovascular, metabolic disease, regenerative medicine, rare and eye disease. We are committed to making our society bright and healthy by producing and supplying innovative technologies, products and services which will support a healthy life for people, and will pursue the satisfaction and happiness of customers, shareholders and employees through our trustworthy activities.

Contact: www.jw-pharma.co.kr

Kyoung-Wan Cho | kwcho@jw-pharma.co.kr

#### LABKEY



ONE Solution for ALL your research data management requirements.

LabKey is a small privately-owned life sciences-dedicated custom informatics solution provider, with over 15-years' experience solving research data challenges around the world, and has recently opened its European office, near London, UK.

Described as a 'TOOLKIT, the core platform, LabKey Server offers modular data management tools and resources, which are applied to address individual or multiple research data challenges, that scientists need to overcome, every day.

Built with world-class software engineering, LabKey Server is open source, enterprise-quality and can be hosted on premises, or cloud-hosted.

Contact: www.labkey.com | ason Leadley | jason@labkey.com

#### LIFEBIT



Lifebit is democratising the analysis and understanding of genetic big data to leap-forward cures, disease prevention, and our quality and understanding of life.

Lifebit solves the challenge of analysing vast amounts of distributed and previously inaccessible genomics data. We do this with one end-to-end operating system platform that enables federated analysis and powerful automation, no matter where data resides, no matter what compute infrastructure is employed.

Lifebit's operating system is designed for data security.

Organisations and researchers are never forced to move sensitive data from one place to another. Lifebit CloudOS is the first fully federated genomics platform that integrates and accommodates all best practices and compliance models. Data privacy and security are always assured and collaboration across teams is seamless.

Whether drug discovery, diagnostics, predicting drug response, or developing personalised wellness models, Lifebit's technology creates new collective understandings from complex distributed data. With our partners and customers, we are helping to form a more integrated landscape of knowledge that enriches life and enables tangible breakthroughs.

At Lifebit, machine learning and Al underpin our solutions and processes. Targeted discovery, design, trials and treatments are empowered and propelled by machine learning techniques. Lifebit Al Engine enables a truly intelligent approach to developments in all areas of life sciences, drug discovery and precision medicine.

Contact: www.lifebit.ai



Linguamatics, an IQVIA company, delivers market-leading NLP-based AI solutions for high-value knowledge discovery and decision support from text. We empower our customers to speed up drug development and improve patient outcomes by breaking down data silos, boosting innovation, enhancing quality, and reducing risk and complexity. Our award-winning NLP platform is proven across multiple real-world use cases. Linguamatics has been trusted for over 15 years to deliver actionable insights that address your most pressing bench-to-bedside challenges with quantifiable ROI.

Our customers include 18 of the top 20 global pharmaceutical companies; the US Food and Drug Administration (FDA); and leading cancer institutes, hospitals, and academic research centers. Linguamatics NLP has been deployed by organizations in pharmaceuticals, biotechnology, healthcare, chemicals and agrochemicals, government, and academia. The company operates globally, with headquarters in Cambridge, UK, and a U.S. office near Boston, MA.

Contact: www.linguamatics.com

# Ymedannex

MedAnnex is a privately-owned, preclinical-stage biopharmaceutical company, established in 2009 by Professor Chris Wood, founder of Bioenvision Inc. (NASDAQ: BIV) and NuCana plc (NASDAQ: NCNA). MedAnnex has recently been granted funding via both Innovate UK and Scottish Enterprise, and also received Corporate LiveWire's Healthcare & Life Sciences Award for Innovation in Autoimmune Disease Treatment, MedAnnex's monoclonal antibody approach has shown significant activity and therapeutic potential in experimental models of rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus (SLE). By modulating the undesirable over-expression of annexin-AI associated with pathways of chronic inflammation, MedAnnex is developing a novel agent for the treatment of complex autoimmune conditions and also exploring other T-cell mediated pathologies. MedAnnex is a member of the Scottish Life Sciences. Association and has its headquarters in Edinburgh, Scotland.

Contact: medannex.org

#### **MICROBIOTICA**



The microbiome represents a paradigm shift that affects every aspect of biomedicine: our gut bacteria control health and disease, and can themselves be a novel type of medicine. Since its foundation in late 2016, Microbiotica has shown itself to be a global leader in this exciting new sector based on its unique platform which brings precision medicine to the microbiome. In June 2018 it signed a strategic alliance with Genentech in IBD worth \$534m, the largest microbiome deal at the time. In the same month, the company signed a collaboration with University of Adelaide to access Ulcerative Colitis clinical samples. These deals demonstrate the remarkable speed with which Microbiotica is building its position in the microbiome field while simultaneously advancing its pipeline.

Microbiotica's platform, based on ground-breaking science developed at the Sanger Institute, enables unprecedented precision in identifying bacteria linked to health or disease. Key elements are a unique capability to isolate all bacteria from any individual, and the leading collection of bacterial genomes which is being expanded to comprise the definitive global collection. Together with AI, these capabilities enable identification of therapeutic bacteria and progression as oral therapies. The company has built an expert team of 35 scientists and is driving programs in *C. difficile*, Ulcerative Colitis and Immuno-oncology (bacterial co-therapy).

**Contact:** www.microbiotica.com info@microbiotica.com

#### **NEMESIS BIOSCIENCE**



We are a biopharmaceutical company developing Symbiotics® — DNA therapeutics administered before or with antibiotics to inactivate anti-microbial resistance in bacterial pathogens.

These Nemesis Symbiotics will make existing antibiotics work again, prevent the spread of resistance genes, and protect the efficacy of new antibiotics. The technology is applicable to all antibiotic classes, resistance mechanisms and bacteria.

To deliver the Symbiotics, our novel Transmids<sup>©</sup> vectors are encapsidated in a bacteriophage coat. Transmids can also spread directly between bacteria by conjugation. Other applications include reduction of chemotherapeutic toxicity, inactivation of virulence factors, and in vivo synthesis of biofuels and therapeutics. Our current Symbiotics use RNA-guided endonuclease technology to inactivate eight families of betalactamase (bla) resistance genes — so resurrecting sensitivity to a broad range of beta-lactams. We have validated the (i) efficacy of Transmid delivery by phage coat infection and of consequent AMR inactivation in mouse models and (ii) also prophylactically inactivated AMR following plasmid conjugation from an introduced commensal strain to AMR bacteria in the gut flora. We are now developing our Transmids for delivery to, and AMR inactivation in, clinically and economically important bacterial pathogens.

Our multi-functional gene targeting systems may obviate the need for prior diagnostic screens for antibiotic resistance and be used generally as a companion biological therapeutic together with well-established antibiotics for therapeutic treatment of infection as well as for prophylactic treatment to prevent the spread of AMR.

Contact: massam@nemesisbio.com | www.nemesisbio.com

#### **OBRIZUM**



#### **OBRIZUM®**

OBRIZUM® Group Ltd. is a B2B corporate learning and knowledge management company. We are headquartered in Cambridge (UK) with satellite offices in London and South Korea. The company is structured in three divisions: OBRIZUM®, our award-winning artificial intelligence-driven eLearning and analytics software product; OBRIZUM® Media, our multimedia content production agency; and OBRIZUM® X, our blended corporate training and conferencing offering.

Contact: www.cambioscience.com

#### O2H



o2h Discovery was founded in 2005 and has an integrated drug discovery platform operating from our state-of-theart research centre in India and our office in Cambridge, UK. We have the in-house capability to execute hit-leadoptimisation programmes leading into patent and IND filing from our state-of-the-art biotechnology incubator with expertise in discovery chemistry, biology, pharmacology and the on-going project management of pre-clinical development. o2h Discovery has developed and launched its proprietary application AI Chemistry in the Cloud™ the world's first app to revolutionise the project management of external drug discovery programmes. The app enables communication between the various scientific stakeholders essential to successful project advancement, leading to faster decision making. It negates the onerous tasks of weeding out critical information that is required to take a complex decision by extracting the information from large data intensive reports and databases. These crucial decision points are now just a 'tap/swipe-of-the-finger' in the AI Chemistry in the Cloud™ app so that they can speedily execute tasks anytime, anywhere. The DNA of o2h is centered around the nurturing of its people, values and culture; it reflects in the way we work with each other, as well as our collaborators and partners.

Contact: www.o2h.com
Tejas Upadhyay | tejas@o2h.com

#### **OPPILOTECH**



Oppilotech are utilising systems biology and machine learning to build computational models of cells. Our pathway modelling methodology is different from traditional approaches (Flux Based Analysis) in that we go into a much higher level of detail incorporating parameters such as catalytic rates, metabolite levels and half-lives. The high level of detail allows us to reveal new biology and identify first-in-class non-intuitive drug targets. We initially focused our modelling efforts on E.coli identifying four first-in-class antibacterial drug targets and generated active chemical matter against three of them. The company intends to develop these programmes towards the clinic. We are now expanding into pathways in human cells, allowing us to address a wider range of diseases. Oppilotech is actively seeking partnerships with pharma/ biotechs/academic groups to model specific biological pathways to identify viable drug targets and new biology.

**Contact:** www.oppilotech.com

#### PELAGO BIOSCIENCE



Pelago Bioscience AB was founded in 2013 to develop and provide services based on the patented Cellular Thermal Shift Assay (CETSA®). This assay is uniquely able to measure drug—target interactions in situ within the cellular environment and can be applied against a specified protein target for compound screening and lead optimization (CETSA Classics and CETSA HT) or in a non-targeted proteomics study (CETSA Mass Spec).

Critically CETSA requires no modification to the ligand or target as it utilizes the natural thermodynamic properties of the protein itself and can be applied to any cell or sample type. CETSA MS is ideal for un-biased proteomics studies and is now used routinely for determining compound liabilities and for mode of action studies. A recent development has been its use to identify novel biomarkers. Pelago works exclusively on CETSA and is able to offer full assay development and screening services to its customers, using its own dedicated laboratories in Sweden.

Contact: www.pelagobio.com

#### **PHOREMOST**



PhoreMost is a Cambridge UK-based biotech company. Founded in 2014, PhoreMost has developed SITESEEKER, its proprietary phenotypic screening platform that exploits biological shape diversity inherent in proteins, to discover new functional pockets on target proteins — enabling the development of first-in-class drug discovery programs.

SITESEEKER is a phenotypic screening platform that systemically probes protein—protein interactions using hugely diverse, DNA encoded libraries with full coverage of the human proteome and beyond. The SITESEEKER platform identifies novel, phenotype-driven drug targets, functional binding pockets and peptide binding partners, which accelerate and de-risk small molecule drug discovery.

PhoreMost is currently advancing novel drug discovery programs in Cancer and Immuno-Oncology and is progressing a target ID pipeline in Aging and Neurodegeneration.

PhoreMost also collaborate with Pharma and Biotech partners to enable access to the SITESEEKER platform. Through these collaborations PhoreMost work collaboratively to screen pathways of interest and deliver validated targets with functional, binding peptides suitable for entry into the drug discovery pipeline.

Contact: www.phoremost.com

#### **POLYPROX**



PolyProx Therapeutics is a biotechnology company focused on the discovery and development of a new class of drugs, Polyproxin® molecules, to treat cancer and neuro-degenerative diseases. Polyproxin® molecules are biopharmaceuticals that selectively target disease-causing proteins and use natural cellular pathways to degrade these proteins.

Our initial focus is in developing Polyproxin® drug candidates for use in the treatment of cancers, targeting aberrant proteins that have previously proven difficult to target using conventional drug classes, such as inhibitors, small molecule PROTACs, RNAi® or monoclonal antibodies.

Polyproxin® molecules were discovered during over a decade of research in the field of protein folding and engineering at the laboratory of founder Professor Laura Itzhaki, Department of Pharmacology, University of Cambridge UK. With co-founders Dr Pamela Rowling and Dr Albert Perez-Riba, they discovered that a novel class of designed proteins can be repurposed to direct disease-causing targets for destruction.

The Company was formed in 2018 based on these inventions and is financed by a syndicate of blue-chip venture capital investors. The technology is protected by a strong intellectual property portfolio that has been exclusively licensed from Cambridge Enterprise. Professor Itzhaki serves as Chief Scientific Officer, working with serial entrepreneurs Andrew Sandham, Executive Chairman, and Dr Kevin Moulder, Chief Operating Officer. Our laboratories are located at the prestigious Babraham Research Campus, Cambridge UK.

**Contact:** www.polyprox.com Laura Evans | laura.evans@polyprox.com

#### **OKINE**

# **Q**kine

Qkine is on a mission to advance stem cell, organoid and regenerative medicine research by re-defining industry standards for growth factor and cytokine quality, which are essential reagents for the sector.

Based on proprietary technology developed in the laboratory of Dr Marko Hyvönen, senior group leader at the University of Cambridge, Qkine manufactures highly pure bioactive recombinant proteins. Along with setting a new benchmark for protein purity, Qkine uses protein engineering techniques to tackle fundamental biological and scalability challenges that are holding back the stem cell and regenerative medicine sector; for example, recent projects have included development of optimised R-spondins to replace conditioned media for organoid culture.

To give stem cell scientists peace of mind, Qkine manufactures its proteins in a dedicated animal-derived component free (ADCF) laboratory and defines very strict and robust quality criteria, with detailed online data provided for every batch.

**Contact:** www.qkine.com | info@qkine.com

#### **REPOSITIVE**



Repositive is committed to accelerating the development of precision cancer therapies to the clinic by working with biopharmas and Contract Research Organisations (CROs) to improve the predictivity of preclinical cancer research. Through its Cancer Models Scout service, Repositive is helping biopharmas to optimise their preclinical cancer projects by identifying the most suitable cancer models for their requirements from its world-leading inventory of over 4,500 models. In addition, Repositive is connecting researchers with the right CRO partners, which have first-class expertise and years of experience running similar studies, to ensure biopharmas receive the best advice for planning and conducting their projects.

Contact: www.repositive.io



Repure Life Science INC. is a company whose culture is based on respect and trust with the meaning of "make your life pure again". A key goal is to help cancer patients for whom there are no suitable treatments, and towards this aim we work closely with cancer clinicians. We aim to improve the quality of healthy life through prevention and management, not just healing of diseases.

We are researching new drug development by collecting and integrating non-clinical data & clinical data and building a healthcare platform, which we hope will bring significant benefit to patients. Additionally, we have created an algorithm that provides exercise 'prescription' solutions for more than 70 diseases. We are also developing a platform linking diet and medication based on this data.

Repure Life Science INC. is making efforts to manage and prevent diseases, and to develop drugs by building new platforms for our discovery pipeline. We are working with leading experts to become a healthcare company that provides care, not just cure, for patients.

Contact: www.repurels.com



RxCelerate: Architects of Drug Development

RxCelerate is an outsourced drug discovery and development platform. Our experienced leadership team will design and deliver on integrated programs to drive your asset through drug discovery, preclinical research and beyond. We specialise in bespoke experimental design with data-rich endpoints, maximising your chances of reaching the clinic. RxCelerate offers bespoke support in all phases of drug discovery and development for researchers and customers who wish to turn their discovery into a potential novel therapeutic. The current services span from chemistry support to lead optimization of small molecules, peptides and proteins such as antibodies, and in vitro and in vivo biology capabilities. Robust program management supported by on-site experimental work creates oversight and ensures smooth progression of the projects in the portfolio. All these services are offered in a stand-alone fashion, although the aim is to support the customer's asset through all phases of drug development if applicable. Scientists from RxCelerate work in close collaboration with the customer, becoming part of the team and adding value by bringing in their specific drug discovery and development expertise. Real-time access to experimental data is provided, supporting the design and execution of the next experiments to move the drug development process forward in the most efficient and cost-effective way.

Contact: www.rxcelerate.com

#### **SELVITA**

# Selvita >

Selvita is one of the largest drug discovery companies in Europe. The company was established in 2007 and currently employs almost 600 scientists, among whom 30% are PhDs. Selvita is headquartered in Krakow, Poland, with a second research site in Poznan, Poland and foreign offices located in Cambridge, MA and San Francisco Bay Area, in the US, as well as in Cambridge, UK.

Our scientists have extensive experience in life sciences, and we offer the following: contract chemistry services, biology services, integrated drug discovery projects, comparative studies of biosimilar medicinal products. Selvita's laboratories are GLP and GMP-certified.

Contact: www.selvita.com

#### **STANDIGM**

# **Standigm**

Standigm is a drug discovery company that searches therapeutic lead compounds using advanced artificial intelligence (AI) trained on big biomedical data. Standigm covers from target identification to drug design.

We are developing an interactive web platform for novel target identification (Standigm ASK™) applying deep neural network inference and prediction on a comprehensive knowledge graph. Targets provided by Standigm ASK™ are being experimentally validated and planned to be used for lead generation with our collaboration partners.

We have developed an automated and industry-level AI platform for lead generation (Standigm BEST®). Using Standigm BEST®, we are running several in-house drug pipelines as well as collaborative discovery projects with top-tier Korean pharmaceutical companies. We are seeking further partners interested in discovering novel scaffolds for their specific targets.

Founded in 2015 by experts in artificial intelligence and systems biology at Samsung Advanced Institute of Technology, Standigm has grown into a team of 33 members including researchers (52% PhDs) of multi-disciplinary expertise in Al science and engineering, chemistry, biology and pharmacology. Standigm has raised a total \$22 million until series B now. We will use the funds to scale the Al technology platforms and advance its drug discovery pipelines toward license-out. Our vision is a full-stack pharmaceutical company that could ease the pains of patients all over the world.

**Contact:** www.standigm.com | business@standigm.com

#### STORM THERAPEUTICS



#### Harnessing the power of RNA epigenetics

Storm Therapeutics is a spin out of the Gurdon Institute at the University of Cambridge, created to commercialise the work of founders Professors Tony Kouzarides and Eric Miska in RNA epigenetics.

Several large families of RNA-modifying enzymes have been identified that impact key biological processes by changing the activity of RNA through catalysing epigenetic RNA modifications. Storm is working at the forefront of this new field, collaborating closely with our scientific founders and their research groups at the Gurdon Institute to elucidate the functional role of diverse RNA modifications. Advances in the understanding of RNA modification and its role in the development of cancer offer the prospect of identifying novel therapeutic targets. Using cutting-edge techniques such as CRISPR screens, chemical biology, RNA-Seq and RNA mass spectrometry, we have established a unique target discovery platform for the identification of small molecule modulators of RNA modification pathways.

Since inception in May 2015, Storm has raised £16m in seed and Series A funding. The company uses the proceeds to establish a pipeline of drug discovery programmes to develop novel, first-in-class drugs for the treatment of specific cancers with high unmet medical need.

**Contact:** info@stormtherapeutics.com www.stormtherapeutics.com

#### TWIST BIOSCIENCE



At Twist Bioscience, we work in service of customers who are changing the world for the better. In fields such as medicine, agriculture, industrial chemicals and data storage, by using our synthetic DNA tools, our customers are developing ways to better lives and improve the sustainability of the planet. The faster our customers succeed, the better for all of us, and Twist Bioscience is uniquely positioned to help accelerate their efforts.

Our innovative silicon-based DNA Synthesis Platform provides precision at a scale that is otherwise unavailable to our customers. Our platform technologies overcome inefficiencies and enable cost-effective, rapid, precise, high-throughput synthesis and sequencing, providing both the quality and quantity of the tools they need to rapidly realize the opportunity ahead.

Contact: www.twistbioscience.com

#### **VERNALIS**



Vernalis Research is recognised as a world leader in fragment- and structure-based drug discovery. Based in Cambridge, UK, Vernalis has been developing and applying these methods to challenging projects since 1997.

Vernalis has a strong emphasis on combining innovative structural biology, biophysics and medicinal chemistry to solve problems and tackle targets across therapeutic areas ranging from oncology to inflammation and neurodegeneration. This requires a deep understanding of the techniques involved and a cautious interpretation of data — an approach grounded on two decades of developing and applying fragment-based lead discovery to a wide range of therapeutic targets.

By combining structural, thermodynamic and kinetic information from fragment and other hits, we design novel potent drug-like molecules. Our successes include the generation of lead compounds which inhibit protein-protein interactions, ATPases and kinases, leading to clinical candidates for McI-1, BcI-2, Hsp90, FAAH and Chk1.

Vernalis balances an internal portfolio of drug discovery projects with fully integrated research collaborations. These collaborations include working with academic partners, biotechnology companies and large pharmaceutical companies. Vernalis currently has seven NCEs in clinical development, and a number of other compounds in preclinical development.

**Contact:** www.vernalis.com | collaborate@vernalis.com

#### VIROKINE THERAPEUTICS



Virokine Therapeutics Ltd (VTL) is a start-up Biotech developing new classes of virus-based immunotherapeutics for treatments of infectious disease (including Covid), cancer and autoimmune conditions. Our DNA discovery and delivery platforms aim to provide novel vaccine treatments and intratumoural therapies. VTL are using virus 'knowledge' to bring innovative immunotherapies for everyone and has IND-enabling preclinical in vivo model studies underway in the USA funded by an NIH/NIAID award, with early results showing strongly positive protection. Our team includes founder Professor Director from the London School of Hygiene and Tropical Medicine, and earlier the University of Cambridge, joined by highly experienced co-founder Finance and Pharma Directors. Over the last year we have established our laboratory at the London Bioscience Innovation Centre and now are proud affiliate members of the Milner Therapeutics Institute.

Contact: info@virokine.com | www.lbic.com/virokine

#### **AFFILIATED INSTITUTIONS**

The Affiliated Institutions programme, established in October 2017, now includes 14 academic institutions across four continents. These partners share our vision of developing new models for research collaboration across industry and academia to transform pioneering science into therapies.













**JOHNS HOPKINS** 

UNIVERSITY & MEDICINE





















#### BIO-SYNERGY RESEARCH CENTER (BSRC), KAIST



As a Korean national research center, BSRC has been developing a virtual human system called CODA, with which we can explore potential efficacy and candidate mode-of-action pathways of single or combination drugs, and natural product-derived medicinal extracts. CODA contains more than 50 million physiological associations among genes, metabolites, cellular functions, and phenotypes in a unified XML-like format called CODA-ML. BSRC has been applying this system to develop combination drugs and functional foods in collaboration with several Korean pharmaceuticals and food companies.

BSRC expects to find international collaboration partners through the Milner Symposium, who might utilize CODA in their research and development projects. (http://biosynergy.re.kr/ eng main)

#### CRUK OXFORD CENTRE



Established in 2010, the CRUK Oxford Centre (formerly the Oxford Cancer Research Centre) is a network and partnership between Oxford University, Oxford University Hospitals NHS Trust and Cancer Research UK, based on the University's Translational Biomedical Research Campus. It harnesses Oxford's world-leading cancer research with the core aim of facilitating collaboration to ensure rapid translation from scientific discovery to treatments for patients.

The ultimate aim of the Centre is to enhance cancer research activity to increase cancer cure rates. The Centre currently comprises over 500 members from 25 different Departments, Units, Institutes of the University as well as the NHS Trust. The partnership provides a cumulative investment of approximately £55m each year for science in Oxford for research to save and improve peoples' lives.

The Oxford Centre is an inclusive network of organisations in Oxford for whom cancer research is a priority focus. We support and connect people working across a range of disciplines and aim to facilitate research collaboration on a local, national and international scale to speed up translation from scientific discovery to treatments in patients.

#### CENTRE FOR GENOMIC REGULATION (CRG)



The Centre for Genomic Regulation (CRG) is an international biomedical research institute of excellence located in Barcelona, Spain, whose mission is to discover and advance knowledge for the benefit of society, public health and economic prosperity.

CRG believes that the medicine of the future depends on the ground-breaking science of today. The breadth of topics, approaches and technologies at CRG permits a broad range of fundamental issues in life sciences and biomedicine to be addressed. Research at CRG falls into four main areas: gene regulation, stem cells & cancer; cell & developmental biology; bioinformatics & genomics; and systems biology.

With around 500 scientists from 41 nationalities and ranking 5th worldwide in research quality, the CRG excellence is based on an interdisciplinary, motivated and creative scientific team that is supported by high-end and innovative technologies.

CRG offers numerous and varied (often unique) possibilities for collaboration in various areas of human health and personalized medicine (e.g. novel targets and mechanisms in oncology; exosomes and genome sequencing; tissue regeneration and engineering; and the study of the microbiome), as well as access to cutting-edge expertise and infrastructure for Advanced Light Microscopy, FACS, Genomics, Proteomics, Bioinformatics, Screening/Protein Technologies and Tissue Engineering. Since 2015 the CRG also integrates the National Centre for Genomic Analysis (CNAG), the 2nd largest centre in sequencing capacity in Europe. Tools and technologies are also available for partnering and licensing in the fields of cancer and immunology, lung and infectious diseases, rare diseases, neurodegeneration, protein engineering, regenerative medicine and vaccination.

# SPANISH NATIONAL CANCER RESEARCH CENTRE (CNIO)

# cnio stop cancer

The Spanish National Cancer Research Centre (CNIO) is a world-class centre for basic and translational cancer research located in Madrid. Our mission is to gain knowledge and apply it to prevent, diagnose and treat cancer with over 450 researchers at the forefront of cancer research.

The CNIO ranks in second position for monographic cancer centres in Europe, and our expertise and capabilities extend to ageing and oncology. In 2019, 90% of our staff were scientists and 17% were foreigners. Nurturing an ecosystem for translational research and innovation, we help researchers maximize the value of their science and bring their discoveries to society as new technologies and therapies.

A strategy to accommodate different partnership models with industry and facilitate knowledge transfer is at the core of our goals. We have a dedicated Academic Drug Discovery Programme with the expertise to carry out chemical validation of potential new targets and development of lead compounds into preclinical drug candidates.

Our current portfolio includes 8 active proprietary programs in oncology, and our value in drug discovery is supported by our unique research with genetically-modified and xenograft disease mouse models and our state-of-the-art biotechnology units. CNIO investigators are leaders in oncology and ageing (regenerative medicine) with special emphasis in DNA damage, cell cycle and telomeres, metastasis and microenvironment, inflammation and immunomodulation, metabolic disorders and fibrosis, gene therapy, breast cancer, prostate cancer, melanoma, brain cancer, haematological tumours and lung cancer.

In this framework of innovation, the CNIO seeks publicprivate research partnerships and licensing of a number of small molecule discovery programs at the hit-to-lead or lead optimization stage.

# ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE (ETRI)



The Electronics and Telecommunications Research Institutes (ETRI), as the Federal Research Agency of Korea for ICT and related technologies, has launched the Cognitive Informatics Research Program, as a strategic institutional agenda, for research and development of novel technologies to enable cognitive reasoning in artificial intelligence.

The human civilization is going through another technological revolution, which is referred to as The 4th Industrial Revolution, to augment our mental capabilities while the previous industrial revolutions were aimed to augment our physical capabilities.

CybreBrain consists of a set of novel ICT technologies to enable The 4th Industrial Revolution, with focus on the self-adaptive real-time Artificial Intelligence. This self-adaptive artificial intelligence with plasticity is capable of deductive reasoning, real time inferencing from in-motion data as well as at-rest data, progressive and incremental learning from outcomes, and self-adaptation to new findings and decision making.

The R&D approach we are taking is to reconstruct and simulate the human brain for cognitive reasoning, prediction and prescriptive decision making by reverse engineering the cerebral cortex of the human brain. We call this novel machine learning and artificial intelligent system "The Thinking Machine" or "CybreBrain".

#### THE INSTITUTE OF CANCER RESEARCH (ICR)



The Institute of Cancer Research, London, is an independent research institute based across two London sites: one in Chelsea in the heart of the UK capital, and one in Sutton, 30 minutes from Gatwick international airport. A member of the University of London, we have an outstanding record of achievement dating back more than 100 years.

Around 800 scientists work here, across the full spectrum of cancer research: from basic cancer biology and drug discovery to clinical trials. We also have a unique partnership with The Royal Marsden NHS Foundation Trust: together, we are rated in the top four centres for cancer research and treatment worldwide.

The Institute of Cancer Research (ICR) is ranked top for research, research impact, biological sciences, clinical sciences and research intensity in the definitive REF rankings of UK university research. We are also world-leading in the commercialisation of our research, seeing collaboration with industry as a vital component of our success.

We have more than 200 active partnerships with a range of companies, from small, specialised biotech and MedTech firms to big pharma. We are consistently ranked by international league tables as one of the world's most successful higher education institutions for academic innovation and effective collaboration with industry.

We are also among the top 10 universities worldwide for the proportion of our papers published with industry, and are first globally for the proportion of academic papers cited in patent applications.

# INSTITUTE FOR RESEARCH IN BIOMEDICINE (IRB BARCELONA)



IRB Barcelona is a world-class research centre devoted to understanding fundamental questions about human health and disease. It was founded in October 2005 by the Government of Catalonia (Generalitat de Catalunya) and the University of Barcelona (UB), and is located at the Barcelona Science Park

(Parc Científic de Barcelona). IRB Barcelona forms part of the Barcelona Institute of Science and Technology.

The Institute's missions include conducting multidisciplinary research of excellence at the unique interface between biology, chemistry and medicine, providing high-level training in the biomedical sciences to staff, students and visitors, driving innovation through active technology transfer to the benefit of society, and actively participating in an open dialogue with the public through a series of engagement and education activities.

Exceptional scientific results deserve to be transferred to society. With this in mind, IRB Barcelona has devised a proactive strategy to ensure that the discoveries made in its labs are developed into products and technologies that serve the scientific and healthcare communities, as well as society at large.

Advised by an international Business Advisory Board, specialists from the Innovation Department work shoulder to shoulder with our researchers to identify results with commercial potential and to protect, develop and commercialize them, with the aim to establish strategic public-private sector collaborations, licensing agreements, and spin-off companies.

#### **JOHNS HOPKINS UNIVERSITY & MEDICINE**

### JOHNS HOPKINS

UNIVERSITY & MEDICINE

Johns Hopkins Technology Ventures (JHTV) is the intellectual property administration center of The Johns Hopkins University. In addition to serving as the licensing, patent and technology commercialization office for Johns Hopkins researchers and inventors, JHTV also supports the growth of start-up companies in and around the university and is an active liaison to parties interested in leveraging university research or materials for academic or corporate endeavours.

JHTV aims to maximize the impact of The Johns Hopkins University's research excellence by facilitating the translation and commercialization of discoveries into accessible technologies, products and services that benefit society.

The JHTV website is: ventures.jhu.edu and can provide more details.

#### MEDICINES DISCOVERY CATAPULT



The Medicines Discovery Catapult is a national centre of applied Research and Development expertise, uniquely designed to promote and support innovative, fast-to-patient drug discovery in the UK through collaborative projects.

It is one of a network of elite, not-for-profit technology and innovation centres established by Innovate UK as a long-term investment in the UK's economy. The Medicines Discovery Catapult will work with industry, academic teams, technology experts, charities, regulators and others.

We provide unique scientific capabilities and act as a gateway to specialist facilities, technology and expertise within the UK, supporting SMEs to drive the development of new approaches for the discovery and early development of new medicines. Helping to transform ideas into commercial products and services for the wider health and wealth of the country.

By developing and validating new ways of discovering new medicines, and promoting key talent and expertise across sectors, it can help the UK maintain its heritage position as a global leader in this key industry.

#### PETER MACCALLUM CANCER CENTRE



Peter MacCallum Cancer Centre is Australia's only public hospital solely dedicated to caring for people affected by cancer and is one of the world's leading cancer research, education and treatment centres. We have over 2,500 staff, including more than 580 laboratory and clinical researchers. We aim to lead a new era of cancer prevention, care and discovery, supported by state-of-the-art facilities at our new home within the Victorian Comprehensive Cancer Centre building.

The Peter MacCallum Cancer Centre houses the largest group of laboratory-based cancer researchers in Australia working in close collaboration with multi-disciplinary teams comprising medical, surgical and radiation oncologists, nurses, radiation therapists and allied health professionals. We offer industry a range of opportunities for collaborative research and development across the spectrum from discovery through to clinical trials. Our laboratory scientists offer pre-clinical drug development expertise, with access to sophisticated animal models of cancer, cutting edge genomic facilities and a range of human tissue banks. Many of our laboratories have also pioneered new technologies in-house that are open to licensing and further development.

65+ years after our establishment, this sense of purpose and commitment to making life better for people affected by cancer continues at our centre today.

#### SAMSUNG GENOME INSTITUTE



Personal genome information is essential for patient care in a precision medicine clinic. The Samsung Genome Institute (SGI) is mainly working on cancer genomics to understand tumor heterogeneity and microenvironment. CancerSCAN is a diagnostic service for precision cancer medicine with comprehensive annotation on any variant in patients. We provide information about the treatment response to each variant in certain tumor types in the Samsung Medical Center (SMC). CancerSCAN analyzes 377 cancer-related genes for SNV, Indel and CNV and also 661 genes for gene fusions and immune profiling. Until now, we have analyzed more than 10,000 cases, which is also linked to a patient's clinical information through a clinical data warehouse in SMC (Nature Communications, 2017). Based on frequent somatic mutation in SMC patients, we designed a focused NGS panel for circulating tumor DNA liquid biopsy (Genome Biology, 2017). We have designed cancer type-specific panels to maximize the detection sensitivity for tumor monitoring in clinical trials in SMC. Single cell genome analysis provides invaluable information about the tumor microenvironment in patients.

We found cell-type markers for immuno-therapy in lung, colon and breast cancer (*Nature Communications*, 2017; *Nature Genetics*, 2017). We are also working on undiagnosed disease in the neonatal intensive care unit to uncover pathogenic mutations in sick babies. The clinical sequencing lab operates four Illumina sequencers and a Oxford Nanopore with a CAP-accredited pathology lab. The bioinformatics lab provides an analysis pipeline, and also runs projects on cancer genomics. We are now interested in the utility of clinic-genomic data for the discovery for drug targets.

### SYLVESTER COMPREHENSIVE CANCER CENTER, UNIVERSITY OF MIAMI HEALTH SYSTEM



Since its inception as a dedicated, comprehensive cancer center, then significantly supported by a naming gift from the Harcourt M. and Virginia W. Sylvester Foundation, Sylvester Comprehensive Cancer Center (UM/Sylvester) has been the cancer brand for the University of Miami Leonard M. Miller School of Medicine. As the only university-based cancer center in South Florida, Sylvester has transformed cancer research and treatment in South Florida and beyond.

We seek to reduce the human burden from cancer and other serious illnesses through research, education, prevention, and the delivery of quality patient care.

- Sylvester will become a fully integrated program of patient care, education, and research with an international reputation for excellence.
- Sylvester will provide new hope for cancer patients in our extended community, which includes South Florida, the southeastern United States, the Caribbean, and South America.
- Sylvester will promote efficient, community-responsive health care, and generate resources to sustain and enhance innovative cancer programs.

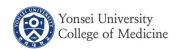
### UNIVERSITY OF PENNSYLVANIA: PENN CENTER FOR INNOVATION



As the nation's first medical school and home to the first teaching hospital, the Perelman School of Medicine (Penn Medicine) has a long tradition of academic excellence and scientific discovery. Building on this tradition, our innovative, interdisciplinary research programs continue today to pave the way for a future of new paradigms in cutting-edge science.

As an internationally renowned community of scientists and physicians, we are dedicated to both advancing knowledge and fostering a culture of excellence in training the next generation of scientific leaders. Our faculty are at the forefront of the biomedical revolution, and we are committed to sustaining a vibrant intellectual environment, with the ultimate goal of translating ground-breaking discoveries into medical therapies that will eradicate disease and improve health care around the world. The Penn Centre for Innovation (PCI: www.pci.upenn.edu) helps to translate Penn discoveries and ideas into new products and businesses for the benefit of society by facilitating connections with the private sector. Whether the end result is a technology license, an R&D alliance, the formation of a new venture, or an integrated combination of these activities, PCI serves as a dedicated one stop shop for commercial partnering with Penn.

#### YONSEI UNIVERSITY COLLEGE OF MEDICINE



The history of the Yonsei University College of Medicine starts from the opening of "Kwanghyewon" in 1885. Kwanghyewon was established to provide western-style medical treatment to the people of Chosun (Korea's former name) suffering from disease, as well as to serve as a teaching facility for its youth to learn western medicine and sanitary science. Then in 1886, the Chejungwon Medical School was established and formalized medical education began. As Korea's first institution of western medicine, our College of Medicine has been a leader in medicine here for the past 120 years.

In order to create a leading medical college, we are striving to provide an environment where researchers can passionately achieve their greatest potential. In addition, to further develop our education and research potential, we will expand the college's essential support functions, as well as distribute and apply resources in the most efficient manner.

Ultimately, it is our goal to increase the level of medical education and services in order to become a hub medical institution in the world. We will do this by identifying the most capable individuals at our institution, supporting research and continuing our efforts to lead the way in the latest methods in clinical treatment.



