



Triankle project: 3D printing of personalized implants for tendons and cartilages in ankle injuries

Open Exploitation and Innovation Workshop

Agenda

V1.7

Date: 23rd January 2024

Time: 09:00 – 17:30 (GMT- UK time)

Venue: Clayton Hotel Cambridge, UK
Hybrid

Registration: [link here](#)



www.triankle.eu



This project has received funding from the European Union's Horizon 2020 research and innovation framework programme under the Grant Agreement #952981

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TriAnkle Project

The TriAnkle is an innovative medical application that aims to improve the junctions and cartilages (and therefore, the overall movement) of the ankle by introducing a tailored, 3D bio-printed collagen-and-gelatin based structure in the affected area. This project has received funding from the European Union’s Horizon 2020 research and innovation framework programme under the Grant Agreement #952981.

TriAnkle is a team of 12 leading international organisations covering the complete spectrum from advanced research to the market. Viscofan BioEngineering and Cellink are the industry partners, working with various associates, such as FC Barcelona Innovation Hub, Osteoarthritis Foundation International (OAFI), Fraunhofer IGB, University of Stuttgart, Universidad del País Vasco (UPV), Eindhoven University of Technology, Leitat Technological Center, Cambridge Nanomaterials Technology (CNT), Gradocell and Fundacio Clinic per a la Recerca Biomedica.



Open Exploitation and Innovation Workshop – Venue

The 1st Open Exploitation and Innovation Workshop for the TriAnkle project is taking place at the:

Marlowe Suite,
Clayton Hotel Cambridge
27-29 Station Road,
Cambridge CB1 2FB
UK
www.claytonhotelcambridge.co.uk/



Open Exploitation and Innovation Workshop – Agenda

Please take notice that all times shown in the agenda are GMT (UK time)

09:00 Arrival, registration, and refreshments (in person participants)

09:15 Online session opens

09:30 Welcome to the Open Exploitation and Innovation Workshop

Bojan Boskovic, CEO, CNT Ltd (TriAnkle Open Workshop Organiser)

Lluís Quintana Frigola, Viscofan SA (TriAnkle Project Coordinator)

09:40 Round table one minute introduction of all participants

10:30 Coffee break & Networking

11:00 **Lluís Quintana Frigola**, Viscofan SA (TriAnkle Project Coordinator)

Title: Introduction to the TriAnkle Project & Viscofan BioEngineering

11:30 **Marta Aubia**, Barça Innovation Hub, Spain

Title: Barça Innovation Hub: boosting innovation to build the future of sports

At Barça Innovation Hub we are committed to foster a new leap in the sports industry by pushing its limits towards new heights. The Bihub not only pretends to act as a body of research, but to foster innovation and its real applications in our Club and the industry in general. Our implication with society transcends the world of sports in order to create a synergy between society and technology. The participation of the Bihub and the FC Barcelona in the TriAnkle project is a great example of the effort the Club is doing towards creating new scientific knowledge that can be transferred to new products and services.

11:45 **Dr Gil Rodas**, FC Barcelona, Spain

Title: Autologous Bone Marrow Expanded Mesenchymal Stem Cells in Muscle and Tendon Injuries

12:15 **Deepak Kalaskar**, University College London, UK (guest speaker)

Title: Bioprinting of tissues including novel materials for translation of bioprinted tissues (vascular tissues, bone and cartilage work)

12:45 *Lunch & Networking*

14:00 **Volodymyr Kuzmenko**, CELLINK Bioprinting AB, Sweden

Title: 3D bioprinting - creating the future of personalized healthcare

CELLINK is enabling the future of personalized healthcare as part of BICO, the world's leading bioconvergence company. When CELLINK released the first universal bioink in 2016 and subsequently launched the world's first affordable 3D bioprinter, it democratized the cost of entry for researchers around the world and played a major role in turning the then up-and-coming field of 3D bioprinting into a thriving \$1 billion industry. Today, the company's best-

in-class biopinks, bioprinters, software and services have been cited in over 1000 publications and are trusted by more than 1,600 academic, pharmaceutical and industrial labs. Today CELLINK's technology allows printing of physiologically relevant human tissues and organs, which enables faster and more accurate personalized drug development, paving the way to save lives by reducing organ rejection and potentially solve the problem with lack of donors. At the same time, the use of the 3D bioprinting technology eliminates the unnecessary use of animal testing.

14:30 Eva Martín Becerra, Gradocell, Spain

Title: Regulatory challenges for the commercialization of bioprinted combined medicinal products

Products that affect human health are heavily regulated to guarantee the quality of their production, as well as their safety and efficacy, which must be demonstrated in non-clinical and clinical studies, prior to their authorization and marketing.

The legislation in force in each territory defines the requirements to be met by products used for human or animal health, food, or hygiene. However, this classification is not entirely obvious, and it is common to find borderline products that are difficult to classify under a single regulatory framework. This is more complex in the case of products containing components classified as different from a regulatory point of view, known as combined products, as is the case of the product developed under the TriAnkle project.

15:00 Chaozong Liu, University College London, UK (Guest speaker)

Title: Osteochondral Scaffold for Early Repair of Osteochondritis dissecans of Talus

Osteochondral defect of talus (OLT) is a lesion of the ankle which involves talar cartilage and subchondral bone. It can lead to partial or complete detachment of the fragment. If untreated, the defects can impair the function of the ankle, limit its range of motion due to ankle joint stiffening, catching, locking and swelling. This can mean the patients will suffer pain and discomfort, and it can potentially place the ability to walk, work and perform sports at risk.

The current state of the art in terms of surgical intervention is an ankle joint fusion and replacement operations. These will happen when the loss of quality of osteochondral tissue at the ankle joint interface has significantly reduced the quality of life of the patient, and non-surgical treatments are no longer effective. These are major surgical procedures, which are only undertaken when the disease has progressed to the stage where there is no alternative to alleviate a severely limited lifestyle. This can mean that patients will have suffered many years of pain, discomfort and reduced mobility before an operation is performed. There were 1026 ankle procedures carried out in England and Wales in 2018. Among them, 42 ankle procedures were performed in the Royal National Orthopaedic Hospital.

The drawbacks and implications of surgical treatments have driven the search for improved techniques and grafts to achieve restoration of the articular surface and integration with the underlying bony architecture through early interventional treatment.

The applicant has invented a novel osteochondral scaffold technology (US 11413374 B2; EP3400030B1; CN108697822B) through support from Versus Arthritis Research UK, which was further developed through an Innovate UK preclinical study. Scaffold is comprised of a multi-layered composite system which includes a highly porous titanium base which allows good integration with the bony component of the osteochondral tissue and serves as a base for cartilage regeneration, preserving the contours of the joint. The osteochondral scaffold could be used for the repair of large osteochondral defects in patients providing a cost-effective alternative to (or delay in the use of) joint replacement.

An in vivo study using a sheep condyle model has demonstrated that the scaffold can achieve stable mechanical fixation through improved bone ingrowth, and lead to improved cartilage

fills. The clinical animal study in the shoulder of an Italian Spinone puppy, performed by Professor Noel Fitzpatrick, star of the Channel 4 TV series *The Suprvet*, demonstrated good cartilage regrowth perfectly matching the curvature of the joint. The function of the shoulder was restored 3 months post-operation and remained highly functional at 2-years follow up. It is expected that the novel scaffold will lead to tangible and clinically relevant results from a one-step surgical procedure for the treatment of large osteochondral defects of the talus. The ultimate aim is to provide clinicians with a viable treatment option in situations where the osteochondral defect has progressed beyond a small defect (less than 10mm), but where a full ankle joint replacement and fusion surgery could still be avoided.

15:30 *Coffee break & Networking*

15:50 **Claire Brockett**, University of Sheffield, UK (Guest speaker - online)

Title: Biotribology and mechanics of natural and artificial ankle joints

This presentation will provide an overview of the in-vitro mechanical test methods employed to evaluate the mechanical and tribological properties of the ankle.

From exploring wear performance and function of total ankle replacement through experimental wear testing and finite element analysis, to characterisation of ligament properties under sprain conditions, through to tribological testing of osteochondral defect repair, and the influence of joint bleeds, this presentation will provide a brief introduction of the key properties to evaluate the mechanical function of interventions for the ankle.

16: 20 **Pinar Koca**, University of Stuttgart, Institute of Interfacial Process Engineering and Plasma Technology (IGVP), Germany

16:50 *Discussion*

Moderate by: Dr Bojan Boskovic, Cambridge Nanomaterials Technology Ltd (CNT).

17:30 End of session

Note It is planned that all presentations would be followed by Q&A discussion. The organisers reserve the right to change the programme or speakers should circumstances require. For any further enquires please do not hesitate to contact directly the **organisers**: Dr Bojan Boskovic from Cambridge Nanomaterials Technology Ltd on info@CNT-LTD.co.uk

Open Exploitation and Innovation Workshop – Speakers

Dr Lluís Quintana Frigola (Project Coordinator)

Viscofan

Spain

Lluís Quintana is chemist (2003) and PhD in bioengineering (2009) by the Institut Químic de Sarrià (Barcelona, Spain). He also holds an MBA (2013) by the IESE Business School. Dr. Quintana is specialised in business development in the biomedical area. He has experience in seed capital investments and business development in biotech companies Since December 2015 Dr. Quintana is Corporate Manager in Viscofan BioEngineering, the biomedical business unit of the Viscofan Group that develops, produces and markets collagen-based products for biomedical applications. Dr. Quintana is TriAnkle project coordinator.



Dr Bojan Boskovic (Project Partner & Organiser)
CEO,
Cambridge Nanomaterials Technology Ltd (CNT)
14 Orchard Way
Lower Cambourne
Cambridge CB23 5BN - UK

Dr Bojan Boskovic is the Founder, Managing Director, and Principal Consultant of the company. He has more than 20 years of hands-on experience with carbon nanomaterials and composites from industry and academia in the UK and Europe. Previously, he worked as a R&D Manager at Nanocyl, one of leading carbon nanotube manufacturing companies in Europe. He also worked on carbon nanotube synthesis and applications as a Principal Engineer-Carbon Scientist at Meggitt Aircraft Braking Systems, as a Research Associate at the University of Cambridge, and as a Senior Specialist at Morgan Advanced Materials. During his PhD studies at the University of Surrey he invented low temperature synthesis method for production of carbon nanomaterials that has been used as a foundation patent for the start-up company Surrey Nanosystems. He was a member of the Steering and Review Group for the Mini-IGT in Nanotechnology that advised the UK Government on the first nanotechnology strategy policy document. Dr Boskovic was working as an advisor for the European Commission (EC) on Engineering and Upscaling Clustering and on setting up of the European Pilot Production Network (EPPN) and European Materials Characterisation Cluster (EMCC). He has experience in exploitation and dissemination management on a number of FP7 and H2020 European projects, including UltraWire, NanoLeap, OYSTER, M3DLoC, Genesis, nTRACK, nanoMECommons, APOLO, TriAnkle, Carbo4Power, Repair3D, AM4BAT and DOME 4.0. Also, in UK Government InnovateUK funded projects, such as UltraMAT, GRAPHOSITE and HiBarFilm. He is also a leader of two private membership-based consortiums: Nano-Carbon Enhanced Materials (NCEM) and Advanced Materials for Additive Manufacturing (AMAM).



Marta Aubia (Project Partner)
Barça Innovation Hub
Spain

Marta Aubia is Innovation Manager Barça Innovation Hub, with a vast experience in:

- identifying and analyzing a big amount of insights and transforming them into actionables for companies.
- Designing and executing different kind of workshops related to co-creation and human-centered design.
- Conducting primary and secondary research (apply ethnographic research to learn more about users/consumers/communities).
- Organizing large-scale events to spread innovative ideas and share inspiring personal experiences.



Dr Gil Rodas (Project Partner)
FC Barcelona
Spain

Gil Rodas is a specialist in sports medicine with a long and successful career in Barcelona. He has over 25 years' experience in health and sports performance monitoring high-level athletes. He has worked

with numerous individual athletes, from tennis players, track and field, and swimmers to world-class motorcyclists at The High Performance Center in Barcelona. He has also treated athletes in team sports such as hockey, football and basketball, at a professional level, and continues to do so. He has also worked in private clinics for more than 25 years, combining this work with teaching as a Professor of numerous Masters in various Universities. He is currently associate professor in Barcelona University. He is a member of the Medical Commission of the Spanish Olympic Committee, having participated in the Olympic Games in 1992(Barcelona), 1996(Atlanta), 2000(Sydney) and will participate in the next Olympic Games in Rio De Janeiro (Brazil).

Since 2003 he belongs to the Medical Department of Football Club Barcelona, where he has performed functions as a Team Doctor in the first football team (2004-2008) and is currently in the basketball team (2008-today). He combines this work “on the bench” with his position as Head of The Research Department in FCBarcelona, designing and assisting different research projects and currently managing 12 PhD students. He has combined basic research and clinical research the field in of sport, investigating different areas from genetics (Twins studies), Hypoxia (sherpas of Himalaya studies), to muscle response (biopsies) and cardiovascular (HRV) to exercise in athletes. In the last decade he has focused on prevention, diagnosis, treatment and rehabilitation of muscle-tendon injuries. He has contributed to several national and international projects and has a coauthored of more than 100 scientific publications in prestigious international journals (Br J Sports Med , Int J Sports Med etc..). He currently holds the position of Medical Head of Barça innovation Hub (FC Barcelona) a network of international experts in muscle and tendon injuries and currently managing 31 research projects.

He is also focusing on Sportomics (from genomics to metabolomic) to monitor elite athletes and regenerative therapies for the regeneration and "cure" of muscle and tendon injuries of professional players, the main cause of "sick leave" and sports performance problems in daily clinical field performance. Actually he is the Head of Exercise and Sports Medicine Unit in Hospital Clinic and Sant Joan de Deu de Barcelona where try to transfer the knowledge from de elite athlete to the general population.



Prof. Deepak Kalaskar (Guest Speaker - Online)
University College London -UCL
 UK

Prof. Deepak Kalaskar is a multidisciplinary scientist with extensive experience in research, management, and education in the area of biomedical engineering, biomaterials and 3D fabrication technologies.

His Research has been focused on the development of novel materials, their analysis, and applications to solve real life problems in medicine. He has extensive experience in biomaterials, biocompatible coatings, 3D printing technologies, design and development of medical devices and implants, stem cells. He is working closely with number of industries, clinical and academic collaborations for the development of new medical products and processes required for clinical translation. He is running 3 clinical trials with various hospitals to bring technologies from bench to bed side.

His research group has received research funding from RCUK (EPSRC, MRC-AMR), various UK based charities and industries. He is the editor and author of 4 Books in the field of 3D Printing in Medicine (Elsevier), Nanomedicine (OpenPress) and Plastic & Reconstructive Surgery (UCL Press). Currently, he directs MSc course in Burns, Plastic and Reconstructive surgery at University College London (UCL), to educate clinicians and scientists in translational medicine.



Dr Volodymyr Kuzmenko (Project Partner)
CELLINK Bioprinting AB
Sweden

Volodymyr is the Principal Scientist at CELLINK, leading an R&D group of scientists focused the development of innovative bioinks and validation of CELLINK's 3D bioprinting technologies for various applications including tissue engineering and drug development. He holds a PhD in Materials Chemistry from Chalmers University in Gothenburg.



Eva Martín Becerra (Project Partner)
Gradocell
Spain

Eva Martín Becerra holds a Degree in Biological Sciences, with a double major in Neurobiology and Health Biology from the Complutense University of Madrid. She holds a Master's Degree in Biotech Management and Business Administration from CESIF, and is currently pursuing a PhD on Technology Transfer Indicators in Biomedicine at the Complutense University of Madrid.

She started her biotech professional career as a research assistant in the CSIC's Ecology and Biology of Reproduction Group (GEBIR), after which she became the Head of Clinical Development and Industrial Property at Fina Biotech (previously Indas Biotech). She then became Project Manager of the spin-off of the University of the Balearic Islands, Sanifit Laboratoris.

In 2013, she founded Kinrel, a company specialized in innovation management and optimization of R&D projects. With 14 years of experience in the clinical development of innovative medicines, she has been collaborating with Gradocell since 2014 as Regulatory Affairs Senior Consultant.



Prof. Chaozong Liu (Guest Speaker)
University College London - UCL
UK

Chaozong Liu is a Professor of Orthopaedic Bioengineering at University College London. He has a PhD in Orthopaedic Science from Newcastle University and a PhD in Bionic Engineering from Jilin University. His research is focused on biomaterials innovation for orthopaedic applications with particular emphasis on the early treatment of musculoskeletal disorders and improving musculoskeletal tissue repair and regeneration. He is also a Vice President of Education Committee at International Society of Bionics Engineering.

Prof Claire Brockett (Guest Speaker – Online)
University of Sheffield
UK

Claire Brockett joined the Department of Mechanical Engineering as Professor of Biomechanics in 2022. Her first degree was in Medical Engineering, and she has a PhD in Biotribology from the University of Leeds.

Post-doc roles at Leeds covered pre-clinical wear testing of hip and knee replacement, exploring different material combinations. A university fellowship enabled Claire to develop a new research area focused on bioengineering of the foot and ankle introducing new industrial and clinical collaborations to bring together tribological studies of natural tissue and total ankle replacement, mechanical studies of ligaments and repair materials, and biomechanical studies of patients with ankle replacement and fusion. An EPSRC discipline hopping grant in 2019 also allowed Claire to spend time with clinicians and patients, and develop some skills in qualitative data and thematic analysis.

Claire is a Chartered Mechanical Engineer, a Fellow of the Higher Education Academy and has been involved in public engagement activities throughout her career, also gaining a PGCert in Practical Science Communication.



Pinar Koca (Project Partner)

University of Stuttgart,

**Institute of Interfacial Process Engineering and Plasma Technology
(IGVP)**

Germany

Pinar Koca received her Bachelor's and Master's degrees in Chemical and Bioengineering from Koc University (Turkey) and Friedrich-Alexander University Erlangen-Nuremberg (Germany), respectively. After her master's degree, she worked as a research scientist in various research institutes and was involved in research projects at the interface between science and industry in the field of stimuli-responsive polymers, membranes and hydrogels. She is currently researching functional biomaterials for additive manufacturing at the Institute of Interfacial Engineering and Plasma Technology IGVP at the University of Stuttgart in close cooperation with the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB.

Open Exploitation and Innovation Workshop – TriAnkle Partners

Viscofan BioEngineering

Web: www.viscofan-bioengineering.com



Viscofan BioEngineering is the project coordinator of TriAnkle. It belongs to Viscofan DE GmbH, which in turn belongs to the Viscofan Group, the world leader in collagen production. Viscofan DE GmbH has developed and produced at industrial-scale collagen solutions that are applied in research, medical and food grade.

CELLINK Bioprinting AB

Web: www.cellink.com



As a life-science company based in Sweden, CELLINK AB develops innovative technologies and products to create, understand and master biology, enabling scientists around the world to culture cells in 3D, perform high-throughput drug screening and engineer human tissues for regenerative medicine.

Barça Innovation Hub

Web: www.barcainnovationhub.com



FC Barcelona participates in the project through the Barça Innovation Hub, the club's sports innovation laboratory and knowledge platform that aims to improve the performance of its athletes and develop products and services that benefit not only the institution but also the sports industry and society in general. The tasks of the Club in the project consist of carrying out the preclinical evaluation of the bio-printed implants and designing patient's engagement strategy, as well as promoting the communication and dissemination of the project.

OAFI

Web: www.oafifoundation.com



OAFI is the Osteoarthritis Foundation International, the first and only worldwide foundation exclusively devoted to the people living with osteoarthritis. Created in October 2016 in Barcelona, the Foundation's goal is to lead the fight against osteoarthritis by promoting education, prevention, treatment and research on those areas pertaining to joint health and to offer solutions to those suffering from this pathology so that they can feel accompanied, relieve their pain and improve their quality of life.

Cambridge Nanomaterials Technology Ltd (CNT)

Web: www.cnt-ltd.co.uk



CNT is specialised in consulting and collaborative R&D project management, including exploitation and IPR management. It will coordinate and exploitation activities and will define the business plan and networking with other related projects and EU initiatives.

Gradocell

Web: www.gradocell.com



Gradocell will lead the work package related to the ethical and regulatory aspects for the development of TriAnkle, both from the manufacturing point of view and for the future authorisation of the clinical trial. Gradocell SL is a consulting company providing technical, regulatory and quality advice, as well as support with the execution of product development projects in the field of Advanced Therapies.

Fraunhofer IGB

Web: www.igb.fraunhofer.de



Fraunhofer IGB develops and optimizes processes, technologies, and products for health, sustainable chemistry, and the environment. In the TRIANKLE Project, the IGB will formulate and develop collagen- and gelatine-based bio-inks needed for 3D printing the implants.

Leitat

Web: www.projects.leitat.org



Leitat is a private technical institute with more than 110 years of experience in industrial innovation processes. We transform technological and scientific results into economic and competitive value for our clients and collaborating entities through applied research and technical testing in the fields of chemistry, energy, environment, materials, engineering and life sciences. We rely upon our 330 highly skilled team members who deliver flexible solutions to face any industrial challenge.

Fundacio Clinic per a la Recerca Biomedica

Web: www.clinicbarcelona.org/idibaps

FCRB manages and promotes the research activities of the Hospital Clínic de Barcelona (HCB) that counts with medical professionals specialised in regenerative medicine and ethical experts in pre-clinical and clinical translation.



University of Stuttgart

Web: www.uni-stuttgart.de

The Institute of Interfacial Process Engineering and Plasma Technology IGVP at the University of Stuttgart develops new functional materials from bio-based and synthetic polymers. In the TRIANKLE project, the IGVP will do research on bio-ink crosslinking chemistry and 3D-printing of bio-inks.



Universidad del País Vasco

Web: www.ehu.eus/es/web/nanobiocel/home

NanoBioCel, research group of the University of the Basque Country, has a wide know-how in 3D-printing for tissue engineering and regeneration. They will develop controlled release drug delivery systems to produce functionalized scaffolds mimicking biological entities and stimulating cell-specific responses to lead to tissue regeneration and repair.



Eindhoven University of Technology

Web: www.tue.nl/en

Eindhoven University of Technology (TU/e) is a technical university based in Eindhoven, the Netherlands. TU/e has nine departments including Mechanical Engineering, Applied Physics, and Biomedical Engineering.



Open Exploitation and Innovation Workshop – Participating organisations

Geistlich Pharma AG (Geistlich)

Web: www.geistlich-pharma.com

Geistlich Pharma AG (Geistlich) develops, produces and markets medical products for the restoration of bone, cartilage and soft tissue as well as pharmaceuticals. The Swiss company with two business units, Geistlich Dental and Geistlich Medical, is located in Wolhusen and Root. The company



has been family-owned since 1851 and is part of the Geistlich Group. With 13 affiliates and 60 distributors, Geistlich has a worldwide distribution network and reaches 90 markets. A total of around 750 employees are committed to the continuously growing company. In the field of regenerative dentistry, the company has been a world market leader for many years.

University College London - Translational Research Office



Web: www.ucl.ac.uk/translational-research/

UCL Translational Research Office (TRO) is an expert team of applied scientists and business developers, supporting the translation of biomedical research discoveries at UCL into real-life applications. We bridge industry and academia to establish collaborations that drive the pipeline of therapeutic, device and diagnostic innovations.

The UCL Translational Research Office (TRO) has the ability to provide end-to-end translation, supporting the development of early-stage research from across UCL and its partner hospitals, into projects attractive for translational funding or further development in partnership with industry.

University College London



Web: www.ucl.ac.uk/surgery/

UCL is a diverse global community of world-class academics, students, industry links, external partners, and alumni. Our powerful collective of individuals and institutions work together to explore new possibilities.

The Research Department of Orthopaedics and Musculoskeletal Science is a global centre for science-driven breakthroughs in restoring pain-free functional mobility and high-quality independent living. We are an interdisciplinary translational research department located on the Royal National Orthopaedic Hospital NHS Trust (RNOH) site in Stanmore. We welcome clinicians, scientists, engineers, innovators, and technologists to work together and apply research in real time to physical medicine and rehabilitation. UCL's partnership with RNOH Research & Innovation supports translational clinical research.

University of Cambridge

Web: www.pdn.cam.ac.uk



Our lab focuses on how embryonic cells organise themselves to form the most complex lifeforms, such as human and non-human primates.

We follow primate embryonic cells through parts of their journey to provide insights into human development. Our approaches include simultaneous genetic and epigenetic high-throughput sequencing from single cells, embryonic stem cell culture and bioengineering of stem cell-based embryo models.

A deeper understanding of primate development is vital for innovative treatments of implantation failure, infertility and cancer as well as clinical applications of stem cell biology.

Cambridge University Hospitals NHS Trust

Web: www.eastgenomics.nhs.uk



East Genomics is the powerhouse for genomic testing across the East of England and East Midlands. It incorporates:

- East Genomic Laboratory Hub - which provides and coordinates genomic testing for the region
- East Genomic Medicine Service Alliance - which brings together the vital multi-disciplinary clinical leadership and other operational and digital functions necessary to embed genomic medicine into mainstream clinical care.

We will ensure all eligible patients across the East Midlands and East of England can access and benefit from appropriate genomic tests when required, ensuring high-quality and personalised treatment.

UIC Barcelona | Universitat Internacional de Catalunya

Web: www.uic.es/en



UIC Barcelona has been ranked in the subject of Social Sciences for the first time in the international ranking Times Higher Education World University Rankings by subject and has retained its position in the subject of Clinical and Health. Nine researchers in the World's Top 2% Scientists. UIC Barcelona among the best European universities, according to the QS World University Rankings: Europe 2024.

Vonlathen Group

Web: www.vonlathenevents.com



Vonlathen Group offers business facilitation platforms for clients who want to develop in emerging markets and Europe. We conduct exhaustive research, match buyers and sellers, and then produce high-profile events, all with a strategic focus on facilitating deals—all in the right place and at the right time. We work in the key sectors, leveraging our expertise to create deal flow, foster networking, and train leaders. Vonlathen Group has the capacity to help you enter new markets, raise capital, secure partners, and close sales.

Nelt Group

Web: www.nelt.com



Nelt Group was founded in 1992. Today it is one of the most successful business systems in the Adriatic region in the field of logistics and distribution.

As an international group, it employs over 5,500 people in 18 companies, in 12 markets in Europe and Africa.

The leadership position and successes achieved over 30 years of operation are the result of constant investment in service improvement, the adoption of new technologies, and investments in the education and development of employees.

Uncommon Limited

Web: <https://uncommonbio.co>



Currently we are focused on making pork products at Uncommon Bio. Our products are high-quality meat made from healthy pork cells that we feed and turn into delicious food. What makes our meat uncommon is how it uniquely enables meat lovers to enjoy delicious and nutritious meat while making a positive impact on the world's health from minimising antibiotic resistance, food borne diseases, and climate change.

Bioprosthesis Inc



Web: <https://bioprotheticscorp.com/>

Our mission, driven by unwavering dedication, is to establish ourselves as a globally renowned leader in the healthcare industry. We strive to achieve this by pioneering and advancing biomedical technologies aimed at precisely restoring bone defects. Additionally, we are committed to the development of innovative skin grafts to effectively address chronic skin conditions, as well as the creation of advanced eye lenses. Through these pursuits, we aim to make significant contributions to the field, benefiting patients worldwide.

Nanoconsult



Web: www.nanoconsult.nl/

Nanoconsult is your partner for expert assessment in biocompatibility and expert assessment with regard to particle release and exposure. Nanoconsult is a partner in MDOT and MDRcompetence and write clinical guidance documents and can help you to conduct, set-up and evaluate clinical follow-up studies of your device. Not as a CRO but as a holder of expertise and experience in class III devices, IND's and clinical trials up to phase IIb. Reflection is also part of the innovation process, and think before you start running.

Center for Biomaterials and Tissue Engineering (CBIT)



Web: <https://cbit.webs.upv.es/>

We created the **Center for Biomaterials and Tissue Engineering (CBIT)** in May 1999 to merge efforts of researchers from several university departments working together in biomedical science, engineering of biomaterials and its translation to clinical application.

We develop and manufacture new material-based systems of biomedical interest, from hydrogel based matrices and polymer scaffolds to recombinant protein fragments and microparticles.

Our work looks to develop materials with specific functional properties and to understand their interactions with cells in vitro and in vivo, with the guiding principle that we can engineer the combined use of materials, cells, proteins and other molecules, and physical stimuli, to guide cell behaviour and stem cell differentiation. We develop most of our systems towards future applications related to tissue engineering and regenerative medicine concepts and to the in vitro modelling of healthy and pathological tissues.

Universitat Politècnica de Valencia



Web: www.upv.es

The **Universitat Politècnica de València** is a public, dynamic and innovative university, dedicated to research and teaching that, while maintaining strong links with the social environment in which it carries out its activities, opts for a determined presence abroad.

BioSense Institute



Web: www.biosens.rs

BioSense, Research and Development Institute for IT in biosystems, is a pioneer in digital transformation of agriculture in Serbia, founded in 2015. Exploring scientific and technological frontiers regarding the application of IT in agriculture, the Institute strives to deliver state-of-the-art digital solutions to the farming sector in Serbia and the world, in order to ensure higher yields with smaller investments.

Newcastle University



Web: www.ncl.ac.uk/engineering/

We are a single, integrated School of Engineering, bringing together all engineering disciplines to realise fully the potential and strength of cross discipline teaching and research.

Our staff provide innovative teaching and research across:

- Chemical Engineering
- Civil and Structural Engineering
- Electrical and Electronic Engineering
- Mechanical Engineering
- Marine Technology

Swansea University



Web: www.swansea.ac.uk

Mechanical Engineering is based at Swansea University's Bay Campus, with our academic offices, specialised labs, workshops and teaching facilities spread across four of the seven Faculty buildings.

Our world changing research activities strive to address the critical scientific knowledge required from industry, society and global challenges. The research expertise within the Department of Mechanical Engineering focuses on developing the knowledge base within the themes of; bionics and biomedical devices, green energy, cybernetics and intelligent machines, printing & coating and additive layer manufacturing.

Our facilities and equipment include an extensive Robotics Laboratory, Virtual Reality Suite, Cyber-Physical Factory, Student-led Hack/Innovation Space, 3D printers, Wind Tunnel and multiple material testing and advanced manufacturing technologies.

We are also currently working with the Royal Academy of Engineers diversity impact scheme to develop a Mechanical Engineering community-wide strategy to address the underrepresentation of females studying Mechanical Engineering. More information can be found here on our .

As a department, we provide a platform whereby academics, students and industry work together in collaboration on real-world challenges to deliver positive impactful solutions that benefit sustainability, society, the economy and climate change within an environment of equality at its core.

Codon Communications



Web: www.codoncommunications.com

Codon develops curated PR solutions for transformational biotech companies at every stage to help establish brand credibility, raise awareness of their pioneering products, elevate their reputation as key opinion leaders, demonstrate corporate value to investors, and connect with customers and collaborators.

Driven by PhD-level scientists with expertise in PR and marketing for bioscience companies, Codon offers a rare combination of high-level scientific understanding and more than a decade of experience in science communication. We pride ourselves on delivering scientifically sound content and a portfolio of reputation-building, audience-engaging PR for the life science industry through our trusted relationships with the trade media and global industry network

Aleph Farms



Web: <https://aleph-farms.com/>

Aleph Farms, an Israel-based cellular agriculture company, enhances sustainability, food security and animal welfare by diversifying the supply and decentralizing the production of quality animal proteins and fats as a complement to sustainable methods of conventional animal agriculture.

Founded in 2017, the company unveiled the world's first cultivated thin-cut beef steak in 2018, the world's first cultivated ribeye steak in 2021, and cultivated collagen in 2022. Under its product brand, Aleph Cuts, the company is launching its first product, the cultivated Petit Steak, grown from non-modified cells of a premium Black Angus cow.

For its contributions to climate leadership, including a net zero commitment made in 2020, it has received top accolades from the World Economic Forum and the United Nations.

NavBiotec



Web: <https://navbiotec.es/>

The Association of Biotechnologists of Navarra (NavBiotec) is a non-profit entity created with the objective of promoting the biotechnological development of Navarre. We serve as a meeting and coordination point for the exchange of ideas and projects between universities, companies and professionals. Another of our priorities is the divulgation and dissemination of biotechnology, with the aim of raising society's awareness of its importance and the benefits of scientific advances in this field.

Mashhad University of Medical Sciences – MUMS



Web: www.mums.ac.ir

MUMS is one of Iran's top universities, and has influenced the health treatment and medical education in the east of Iran. Located in Mashhad, Razavi Khorasan province, Iran, it is a mid-sized university with several faculties, hospitals, health centers and research centers.

Mums is a pioneer in providing international fellowship and short courses for foreign students. MUMS is a research-intensive university which offers different academic courses in various levels and areas.

University of Sheffield - Department of Mechanical Engineering



Web: www.sheffield.ac.uk

Welcome to the **Department of Mechanical Engineering at the University of Sheffield** where, for over 100 years, we have fostered a culture of innovative teaching and entrepreneurial cutting-edge research.

Our courses cover all aspects of engineering, from design and innovation to manufacturing as well as the fundamental scientific principles underpinning them. We also focus on the development of soft skills – such as teamwork and problem-solving – which are essential tools for an engineer and help prepare our students for their future careers.

Our innovative teaching and cutting-edge research make us one of the leading mechanical engineering departments in the UK. We work with businesses locally and globally to keep our teaching and research relevant and innovative. Our staff are leading research engineers with a wide range of specialist expertise, practising in the field and up to date with recent technology.

We challenge and support our students to become engineers of the future. And a career in mechanical engineering can take you anywhere.

Nanoplasmas P.C.



Web: www.nanoplasmas.com/en/

Nanoplasmas is a spin-off company of NCSR Demokritos, with expertise in micro-nanotechnology and surface engineering, preparing high-end consumables for health, food safety, agricultural and environmental applications. Its patented technology has been incorporated into microfluidic devices creating lab-on-chip diagnostics. Nanoplasmas has several other products in the pipeline based on its innovative plasma nanotexturing technology.

Alfaisal University



Web: www.alfaisal.edu/en

Founded in 2002, Alfaisal University is a fully accredited NCAAA institute of higher education located in the Kingdom of Saudi Arabia.

A truly architecturally stunning campus, situated on the austere grounds of the palace of his Majesty the Late King Faisal in the capital of Riyadh, Alfaisal is the crown jewel of the internationally reputed King Faisal Foundation. With over 4,000 students (representing over 51 nations), Alfaisal's undergraduates are enrolled in one of the University's five colleges: Business, Engineering, Medicine, Science, Clinical Pharmacy and Law & International Relations. Students have the opportunity to continue their studies on campus by pursuing a graduate degree in business, engineering, nanoscience, biomedical, and health sciences.

A student-centered and research-focused University, Alfaisal students have singular opportunities for collaborative research and international study. Furthermore, student associations, clubs, and organizations provide opportunities for both personal and professional growth as the University seeks to graduate socially responsible global citizens that are committed to lifelong learning and personal development in service to others.

Eminence in research is crucial to achieving the University's goals of becoming a leading institution, Alfaisal has partnered with nearby King Faisal Specialist Hospital and is linked to a large number of overseas universities as well as multi-national companies such as Boeing, BAE Systems, Thales and Shell.

SRM Institute of Science and Technology



Web: www.srmist.edu.in/

SRM Institute of Science and Technology (formerly known as SRM University) is one of the top ranking universities in India, offering a wide range of undergraduate, postgraduate and doctoral programs in Engineering, Management, Medicine and Health sciences, and Science and Humanities.

Massachusetts General Hospital – MGH



Web: www.massgeneral.org

Massachusetts General Hospital aims to deliver the very best health care in a safe, compassionate environment; to advance that care through innovative research and education; and, to improve the health and well-being of the diverse communities we serve.

University of Glasgow

Web: www.gla.ac.uk



The University of Glasgow has been changing the world since 1451. We are a world top 100 university and a member of the prestigious Russell Group of leading UK research universities.

Our people have always been at the forefront of innovation, including eight Nobel Laureates, two UK Prime Ministers, three First Ministers of Scotland, 10 Fellows of the Royal Society and 11 Fellows of the British Academy. Our past achievements inspire our current world changers.

As a globally connected university, we work in partnership with others across the world to advance global solutions to real world problems. We are proud to be a founding member of the university networks Universitas 21 and The Guild of European Research Intensive Universities.

We are committed to tackling the most pressing global challenges facing humanity and the natural world. We are delivering against the United Nation's 17 Sustainable Development Goals (SDGs) and have pledged to be carbon neutral by 2030. We were the first European university to declare it would divest from fossil fuels by 2024 and the first in Scotland to declare a climate emergency.

We believe that everyone should have fair access to education. We are proud of our long tradition of helping talented people to fulfil their ambitions, regardless of their background or circumstances. Our University of Sanctuary status recognises the safe and welcoming environment we provide for refugees and asylum seekers.

We are home to The Hunterian, our museum and art gallery, one of the leading university museums in the world. We have the world's largest permanent display of the work of James McNeill Whistler and the largest single holding of the work of Charles Rennie Mackintosh.