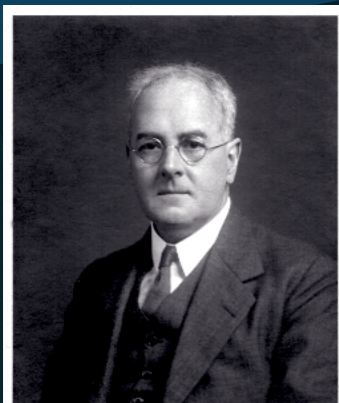


A UNIQUE APPROACH

UWS Research and Enterprise Equipment Catalogue

UNIVERSITY OF THE
WEST *of* SCOTLAND
UWS



L. F. Richardson, 1931

OUR HERITAGE

Known for much of the 20th century as Paisley College of Technology, the institution that was to become UWS attracted great minds from its earliest years. From 1922 to 1940 the Principal was Lewis Fry Richardson FRS, a noted mathematician, physicist, meteorologist, psychologist and pacifist. His ground-breaking work on fractals inspired the design for this publication.

The cover consists of a pattern determined by the mathematical principles pioneered by Richardson more than 60 years ago.

University of the West of Scotland continually invests in and develops technology and equipment to maintain our leading position in research. This equipment can also be accessed by our partners in business and industry and this equipment catalogue showcases the range of equipment - across a variety of specialist areas - that is available. Contact details for individual pieces of equipment are shown throughout this brochure.

We can also work with you on a collaborative basis - so if your business needs assistance with a short or long-term project, we can help.

Get in touch:

E: researchservices@uws.ac.uk
enterprise@uws.ac.uk

T: 0141 848 3680

www.uws.ac.uk/research

UNIVERSITY OF THE
WEST of SCOTLAND
UWS

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We believe in
partnership with
business - private,
public and global



This strategy allows us to offer a highly relevant proposition to industry, commerce and the public sectors. We can work with you on a major long-term project or simply help with short term support via a single student placement project. Thanks to our accessible, approachable way of working, we can tailor the way we engage so that it fits your needs precisely - and you will always find our culture supportive, interrogative and innovative.

The University's Aspire Centre in Paisley is a dedicated central resource designed to allow businesses and other organisations to engage with our academics. Our new Lanarkshire Campus, opening in 2017, will be co-located with industry to maximise opportunity for collaboration. We expect this to contribute over £1.9 billion to the regional economy over the next 25 years, and are seeking collaboration and cooperation with businesses and other organisations at home and around the world.

Despite our status as a modern university, UWS will be 120 years old in 2017. We have a proud tradition of supporting the economy and contributing to the society of Scotland, and our people have helped to shape the modern world through research, understanding and application in fields as diverse as healthcare therapies and gravitational waves. Looking to the future, we intend to make UWS Scotland's foremost entrepreneurial university. We've integrated our research, enterprise, employability and graduate school functions to offer partners, customers and students an outstanding experience and effective results.

This brochure showcases just some of our equipment that you can access. In addition to this capacity, we have a vast array of academic capability. So why not get in touch and find out just how productive a partnership with UWS could be?

A TANGIBLE, POSITIVE EFFECT ON SOCIETY

I'm immensely proud of our research community here at UWS. The projects and innovative technologies we develop help to shape society in Scotland and throughout the world. We're committed to building a research culture and research environment of the highest quality, to develop collaborative partnerships, and to ensure that our research has real-world applications for industry and commerce to exploit.

PROFESSOR EHSAN MESBAHI
VICE-PRINCIPAL & PRO VICE-CHANCELLOR
(RESEARCH & ENTERPRISE)

ENABLING EXCELLENCE

UWS has a vision and mission to grow world-class research and to ensure that this research underpins our programmes and is accessible to local, national and international partners through knowledge exchange and enterprise services.

Our strategic priorities focus on three main research and enterprise themes that reflect challenges facing modern society. Our staff work across three broad themes, but our main focus is on inter-disciplinary and multi-disciplinary approaches to Health, Society and Sustainability. Activities span these broad themes, as well as the disciplines that fall within them.

Our horizons are global and we deliver world-class research, but our primary focus is on working with local partners from across the University's five campuses in Scotland and London. Partners are able and welcome to access our student base, both to engage with student projects and for potential recruitment. We want UWS to be embedded in the community, working in partnership with schools and colleges, and businesses of all sizes and scales. Our aspiration will be to share facilities and expertise for mutual advantage, with UWS experts integrating with your business or organisation.



Enterprise Services has a dedicated team of staff working to help businesses access our expertise and resources for feasibility studies, problem solving, consultancy, R&D, training, analysis and testing. We work with organisations of all sizes, across public and private sectors. Amongst other support, we provide:

- ▲ Opportunities for continuing professional development and training, delivered on an open or bespoke basis, at the University, on your premises or at any other location
- ▲ Consultancy services including expert witness, problem-solving, feasibility studies and technical analysis services
- ▲ A Knowledge Transfer Partnership scheme
- ▲ The Scottish Funding Council's Innovation Voucher scheme
- ▲ Support for entrepreneurs to build companies, protect intellectual property and commercialise their innovations
- ▲ Involvement by UWS students and graduates to help develop client organisations
- ▲ Conference, events and meeting facilities
- ▲ Access to University-developed Intellectual Property on a licence-basis

SUPPORT AND STRUCTURE - THE UWS GRADUATE SCHOOL

UWS provides exceptional research opportunities. Our multi-disciplinary, collaborative approach and close ties with industry support a unique culture in which students from diverse backgrounds can thrive and achieve their potential.

The UWS Graduate School plays a key role in supporting postgraduate research students. Through training courses, seminars, competitions and interdisciplinary programmes, the School encourages researchers to look beyond the boundaries of their disciplines and develop skills relevant to a wide range of careers.

Currently UWS has around 450 research students from more than 20 different countries working in a range of postgraduate programmes. Research degrees available are:

- ▲ Doctor of Philosophy (PhD)
- ▲ Master of Philosophy (MPhil)
- ▲ Master of Research (MRes)
- ▲ Doctor of Business Administration (DBA)
- ▲ Professional Doctorate (DProf, EngD)
- ▲ PhD by Publication (PhD)

For more details and a full description of each of these degree programmes, please see the UWS website www.uws.ac.uk/graduateschool

OPPORTUNITIES TO COLLABORATE

Through a collaborative approach, a sponsored studentship project offers unique and tangible benefits to all involved. The specifically designed studentship provides opportunities to explore novel research collaborations and strengthen current partnerships. A collaborative studentship encourages productive engagement between partners who then benefit from a motivated, high-quality PhD student undertaking cutting-edge research relevant to the organisations' priorities and objectives. The studentship provides opportunities to explore novel research collaborations and strengthen current partnerships.

A studentship designed with a business partner provides an outstanding students access to training, facilities and expertise not available in an academic setting alone. Students benefit from a diversity of experimental approaches with an applied/translational dimension. Students have an opportunity to develop a range of valuable skills and significantly enhance their future employability.

EMPLOYABILITY AT UWS

UWS's new research and enterprise strategy will create an engine for growth, significantly enhancing the success and employment prospects of our students. More and better research, industry engagement and income generation will benefit us all.

To implement this strategy, we're developing a new enterprise and employability unit focused on engaging with industry. The unit will manage both demand and supply of students, learning what businesses want and need from us and putting forward suitably talented and prepared students to fill those requirements.

By putting industrial needs at the heart of UWS, we're creating a uniquely practical, relevant and responsive offering. Every student will have access to work experience, with an embedded partnership model based on understanding business needs.

FIVE FROM LIFE HOW UWS IS WORKING WITH SCOTTISH INDUSTRY

Research at UWS reflects our culture of doing practical, useful work that benefits individuals, businesses and society as a whole. Key to that approach is working with Scottish industry to develop new products and services, exploit competitive advantages and enter new markets. This work is stimulating our economy, creating jobs and making a real contribution to the prosperity of the country. It also provides invaluable opportunities for our students and collaborators. Here are five examples of UWS in action with industry.

▲ SNAP40 is an Edinburgh-based business designing and developing wearable medical devices. UWS helped them develop a device to monitor indicators including respiratory rate, blood pressure, heart rate and skin temperature. The data is transmitted wirelessly to a software platform which detects patterns and trends, automatically notifying healthcare staff when attention is required.

“With some universities there can be issues with IP but with UWS this process was very straightforward.”
Christopher McCann, CEO SNAP40.

▲ The world's biggest fish vaccine delivery company, Stirling-based Aqualife approached UWS for help in developing more effective and accurate inoculation systems. On completion and following independent assessment, the KTP project was judged ‘Outstanding’ by Innovate UK - one of a very small percentage of projects to achieve the highest status. Aqualife has now licensed the IP from UWS and is taking the technology to market at home and abroad.

“The results we achieved led into our current R&D programme....which is crucial to Aqualife's future strategy.” Phil Brown, Technical Director, Aqualife.

▲ Gas Sensing Solutions Ltd. in Cumbernauld make carbon dioxide sensors for use in industry, building control, horticulture and subsea work. UWS world-leading Institute of Thin Films, Sensors & Imaging helped them to create a portable fast-response carbon dioxide sensor for use in exercise science and sports applications. The new product helps determine the correct intensity of exercise for individual athletes.

“The new product which UWS helped us build will fuel our growth plans by allowing us to win market share.” Alan Henderson, MD, Gas Sensing Solutions.

▲ A strategic partnership between UWS and Loretto Care, an organisation which provides support to people in need across the west of Scotland, has helped build and sustain a world-class facility for people with Alcohol Related Brain Damage (ARBD). Loretto has been able to transfer much of UWS's world-class academic research and knowledge to its own staff.

“Loretto Care has enjoyed a positive relationship with UWS and takes great pleasure in this partnership.”
Cathy Fallon, Director of Housing and Care, Loretto Care.

▲ Around 1.2million flights per year depend on National Air Traffic Services' Prestwick Control Centre for safe and efficient passage. In 2016 NATS formed a partnership with UWS to work on a range of projects covering joint research and knowledge transfer, collaborative education and training programmes.

“We were impressed by the UWS team's approach. We look forward to working with UWS students and academic teams on a range of initiatives and opportunities.” Alastair Muir, Director for Prestwick, NATS.



At UWS we are proud of our world-class research which spans our themes of Health, Society and Sustainability. Much is multidisciplinary and collaborative in nature but it is all based on excellence in our individual disciplines.

Our excellence in research activity is underpinned by state-of-the-art equipment and unique facilities that we can make available to academic collaborators, industrial partners and research students.

We have profiled our facilities here, in areas of Engineering; Computing; and Thin Films, Sensors and Imaging, and invite you to collaborate, to contract, and to study with us. All of these facilities will also be able to be used for novel and innovative investigations in interdisciplinary studies.

We can offer academic engagement, and a full range of technical and analytical services and support.

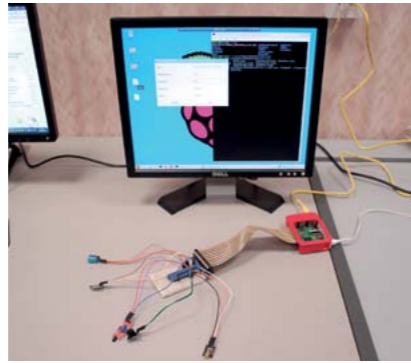
ENGINEERING AND COMPUTING



Large-Scale IT Infrastructure

DESCRIPTION:
This Large-Scale Infrastructure, being one of the first ones of its kind, is used to investigate novel ways of reducing both operational and capitals costs for businesses, novel ways to achieve smooth delivery of 4K video traffic to mobile phones, faster communication channels to access to novel 5G networks and novel network cognitive capabilities to be able to self-protect, self-configure, self-optimize and self-healing the infrastructure in a completely autonomic way.

CONTACT:
Prof. Jose M. Alcaraz Calero
Email: jose.alcaraz-calero@uws.ac.uk
Tel: 0141 848 3419



Internet-of-Things Sensor Kit

DESCRIPTION:
These devices packed with sensing and actuating capabilities are used to monitor and respond to changing smart environments. They have applications within the areas of Smart Cities, infrastructure monitoring, remote sensing to name a few. Here at UWS, these devices are used for data stream analysis, security & privacy and personalised service provisioning.

CONTACT:
Dr Naeem Ramzan
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4K UltraHD Monitor

DESCRIPTION:
The image shows a neuro image navigator with 3D rendering of Fiber Tracts obtained from Diffusion Weighted Magnetic Resonance Imaging (MRI). The equipment is also used for video quality evaluation.

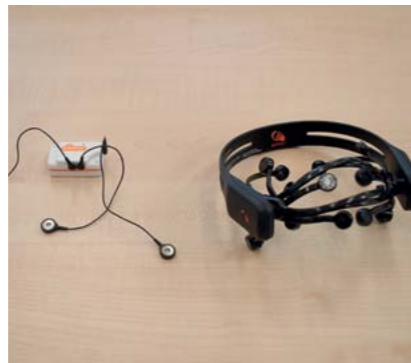
CONTACT:
Dr Naeem Ramzan
Email: naeem.ramzan@uws.ac.uk
Tel: 0141 848 3648



Software-Defined Radio Lab

DESCRIPTION:
These specialized prototyping tools are used in order to be able to investigate novel ways of wireless communications to achieve more efficient, secure and fast communications. Currently, UWS has set up a complete operational Mobile Telco infrastructure on top of these devices in order to investigate the novel 5G technologies and capabilities.

CONTACT:
Prof. Jose M. Alcaraz Calero
Email: jose.alcaraz-calero@uws.ac.uk
Tel: 0141 848 3419



Emotive Wireless EEG Sensor Kit

DESCRIPTION:
This equipment is used in different applications in the biomedical engineering area, including emotion recognition. Signals are automatically processed to get meaningful information from the user, including heart rate, brain activity, and where they are looking.

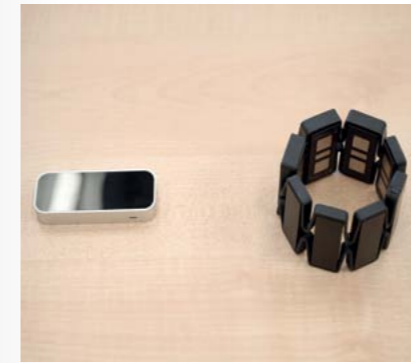
CONTACT:
Dr Naeem Ramzan
Email: naeem.ramzan@uws.ac.uk
Tel: 0141 848 3648



Shimmer Sensor Equipped with ECG monitor and Eye-Tracker

DESCRIPTION:
This equipment is used in a wide range of different applications in the biomedical engineering area, including emotion recognition. Signals are automatically processed to get meaningful information from the user, including heart rate, brain activity, and where they are looking.

CONTACT:
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Tel: 0141 848 3648



Leap Motion Hand Tracker (left), MYO Gesture Control Armband

DESCRIPTION:
Leap motion has an infrared sensor to track the user's hands, whereas the MYO armband monitors the forearm muscle activity informing different sensors. These devices are used to develop virtual reality frameworks to train patients on the use of bionic hands, especially to control the applied strength of a grabbing gesture by means of the MYO device (the position of the hand is acquired using leap motion).

CONTACT:
Dr Naeem Ramzan
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Scottish Centre for Enabling Technologies (SCET)

DESCRIPTION:
The SCET team are specialists in the field of integrated cloud and mobile application development, games, learning environments, animation and many others. The aim of the Scottish Centre for Enabling Technologies (SCET) is to facilitate co-operation in R&D and knowledge transfer in the area of enabling technologies for content and knowledge management between the University's multi-disciplinary science base and companies. The Centre strives to deliver software solutions that matter to both industry and organisations. The SCET team have a highly effective mix of mobile app and game developers, animators, graphical designers, project managers, data scientists and trainers.

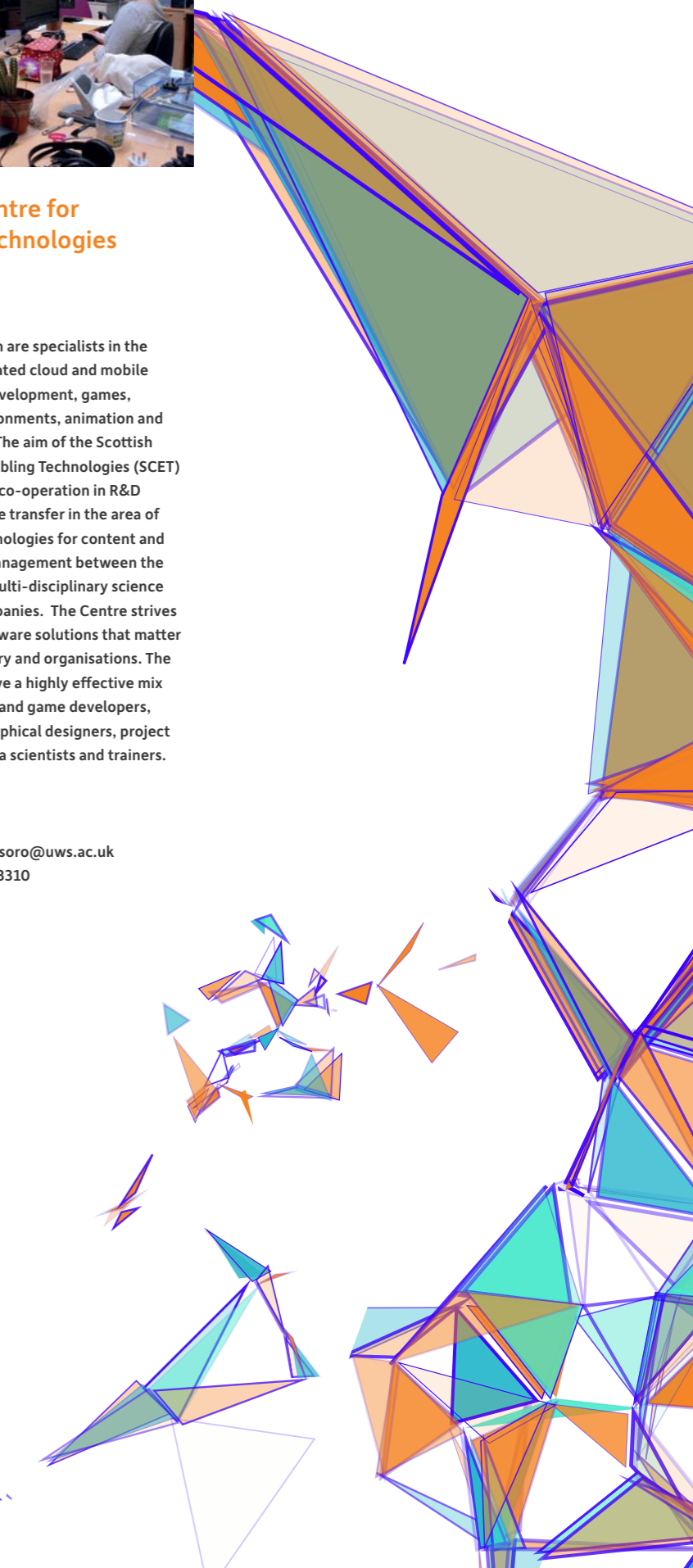
CONTACT:
Idong Usoro
Email: idong.usoro@uws.ac.uk
Tel: 0141 848 3310
www.scet.co



Multi-Sensor UAV

DESCRIPTION:
These devices are applied in different research projects including: monitoring and prevention of flood events using hyper spectral imaging, network management and resource optimisation in the event of natural disasters, monitoring oil and gas facilities.

CONTACT:
Dr Pablo Casaseca
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Tel: 0141 848 4143





Strong Wall

DESCRIPTION:
This is a specialised reinforced concrete structure which enables testing various large scale items e.g. concrete, masonry or timber columns / wall / other structural items through the application of large horizontal loads. It was designed to University requirements.

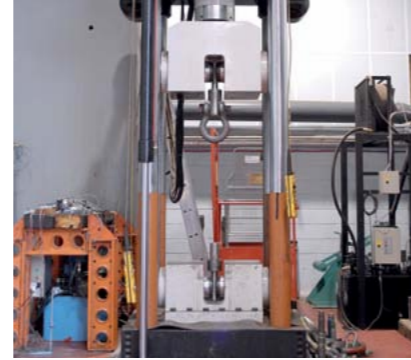
CONTACT:
Minna Roebuck
Email: minna.roebuck@uws.ac.uk
Tel: 0141 848 4234



Universal Testing Machine 50kN

DESCRIPTION:
This machine is utilised in materials testing. It stretches and / or compresses material. Can be used for calibrating load cells and testing materials.

CONTACT:
Minna Roebuck
Email: minna.roebuck@uws.ac.uk
Tel: 0141 848 4234



Universal Testing Machine 200kN

DESCRIPTION:
This machine is utilised in materials testing. It stretches and / or compresses material. Can be used for calibrating load cells and testing materials.

CONTACT:
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Tilting Flume

DESCRIPTION:
This tilting flume simulates open channel flow of water and is used to measure different flow rates, characteristics of open channel flow based flow rate, channel size and obstruction weir.

CONTACT:
Minna Roebuck
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Tel: 0141 848 4234



Universal Testing Machine 100kN

DESCRIPTION:
This machine is utilised in materials testing. It stretches and / or compresses material. Can be used for calibrating load cells and testing materials.

CONTACT:
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Compression Testing Machine 300kN

DESCRIPTION:
This machine is utilised in crushing concrete, testing strength. Can be used for calibrating load cells and testing materials.

CONTACT:
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Tel: 0141 848 4234



Impregnation Machine

DESCRIPTION:
This equipment impregnates porous materials with resin in order to strengthen prior to sample preparation.

CONTACT:
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Tel: 0141 848 4234



Precision Lapping Machine

DESCRIPTION:
This machine is used in geology sample finishing process - flattening samples to 30 micron thickness.

CONTACT:
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Tel: 0141 848 4234



Polisher / Grinder

DESCRIPTION:
This equipment is used in mineral and metal sample preparation, polishing to a high specification. It is used to reveal structure and remove scratch marks.

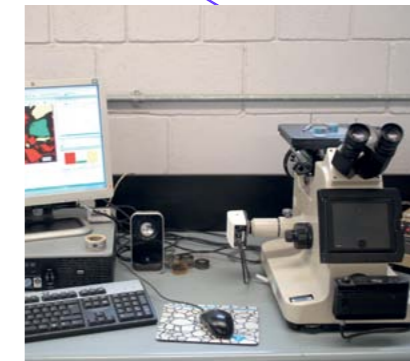
CONTACT:
Minna Roebuck
Email: minna.roebuck@uws.ac.uk
Tel: 0141 848 4234



Precision Saw

DESCRIPTION:
This precision saw is used to cut accurate thin layers of materials and prepares thin section samples on slides.

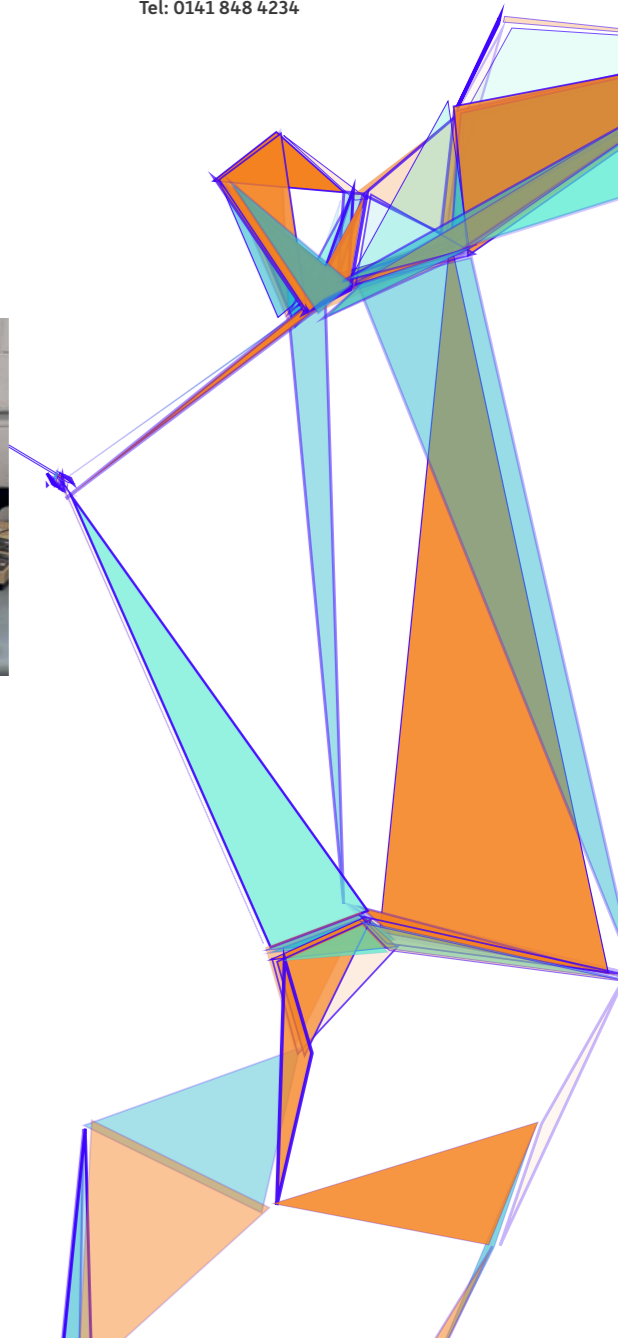
CONTACT:
Minna Roebuck
Email: minna.roebuck@uws.ac.uk
Tel: 0141 848 4234



Inverted Microscope

DESCRIPTION:
This microscope is used to look at mineral and metal samples and gives percentage analysis of the mineral sample.

CONTACT:
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Tel: 0141 848 4234





Co-ordinate Measuring Machine (CMM)

DESCRIPTION:
This equipment is a high-quality 3D CNC Coordinate Measuring Machine (CMM) and is used for physical measurement of components both linear and digital. Components can be measured against drawing dimensions or scanned (3D) for data that can be imported in to CAD systems for further analysis.

CONTACT:
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Tel: 0141 848 4234



5 Axis CNC Machine

DESCRIPTION:
Computer Numerical Control (CNC) Machines or Machining Centres are used to machine components from Computer Aided Design (CAD) drawings. This machine is utilised to machine standard components for education, research and commercial purposes from number of different materials. The efficient design of the Hurco 5-axis trunnion table machining centres is the key feature providing more clearance in Z, compared to other brands.

CONTACT:
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Tel: 0141 848 4234



3D Rapid Prototyping Machine

DESCRIPTION:
This machine is used to manufacture 3D ABS plastic component prototypes from electronic designs and is suitable for low volume production.

CONTACT:
Minna Roebuck
Email: minna.roebuck@uws.ac.uk
Tel: 0141 848 4234



Solar Panels x7

DESCRIPTION:
These solar cells capture the sun's energy and are used in education, research and commercial work.

CONTACT:
Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



Plastic Moulding Machine

DESCRIPTION:
This equipment is used to make plastic components for education, research and commercial purposes.

CONTACT:
Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



Rapid Prototype

DESCRIPTION:
This rapid prototype machine is used to manufacture 3D prototypes of components from electronic designs and is suitable for low volume production.

CONTACT:
Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



CNC Machine

DESCRIPTION:
Computer Numerical Control (CNC) Machines or Machining Centres are used to machine components from Computer Aided Design (CAD) drawings. This machine is utilised to machine standard components for education, research and commercial purposes from number of different materials.

CONTACT:
Minna Roebuck
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Tel: 0141 848 4234



Wind Turbine (Generator)

DESCRIPTION:
This equipment is designed for semi-domestic for use in education, research and commercial work.

CONTACT:
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Tel: 01698 283100



Wind Tunnel

DESCRIPTION:
Designed and built in-house at UWS for use in education, research and commercial work. The wind tunnel can be used to measure down force on the front and rear of cars, trucks etc.

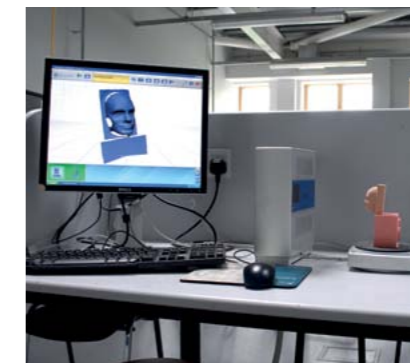
CONTACT:
Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



Vacuum Former

DESCRIPTION:
This vacuum former is used to produce prototypes (similar to an autoclave) for education, research and commercial work.

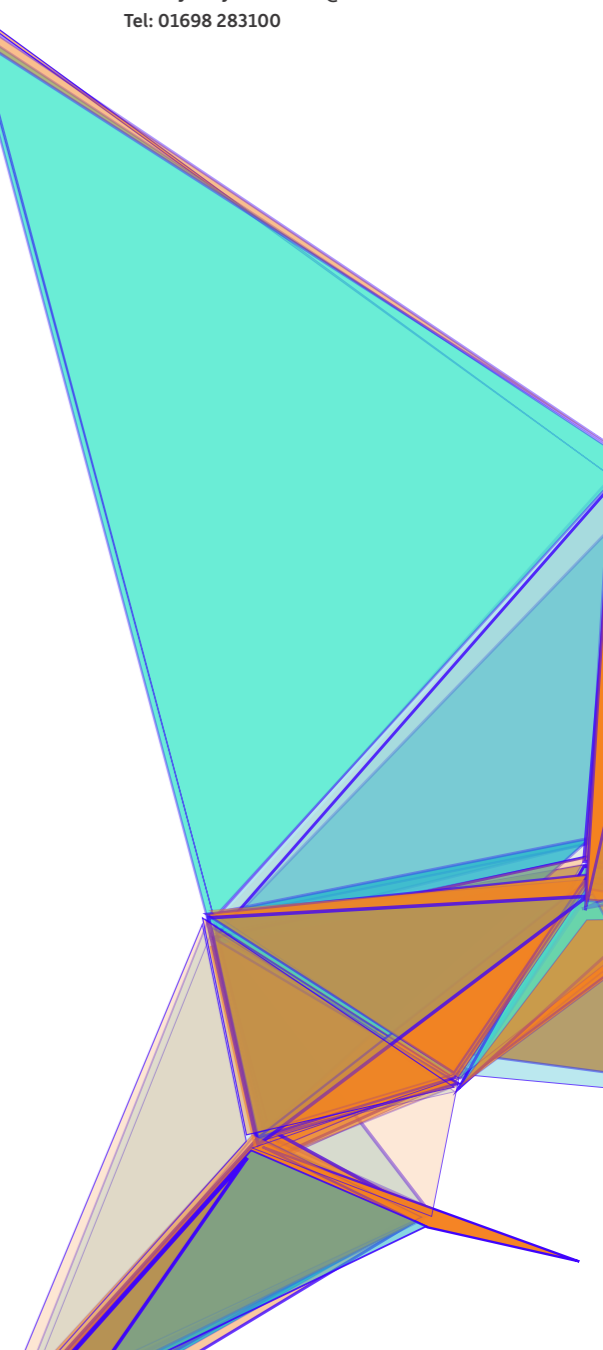
CONTACT:
Jimmy Learmonth
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Tel: 01698 283100



3D Laser Scanner

DESCRIPTION:
This equipment is used to 3D scan an item to measure dimensions before building components either by prototyping or machining.

CONTACT:
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Tel: 01698 283100



ENGINEERING AND COMPUTING

MECHANICAL AND ELECTRONIC ENGINEERING



Vacuum Former

DESCRIPTION:

This equipment is used to produce plastic moulds from solid models.

CONTACT:

Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



Mechatronic Assembly Line

DESCRIPTION:

This equipment is used in training on how a PLC controlled automatic assembly line operates.

CONTACT:

Jimmy Learmonth
Email: jimmy.learmonth@uws.ac.uk
Tel: 01698 283100



Robot

DESCRIPTION:

This equipment is used to position components for assembly.

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ENGINEERING AND COMPUTING

METROLOGICAL ENGINEERING



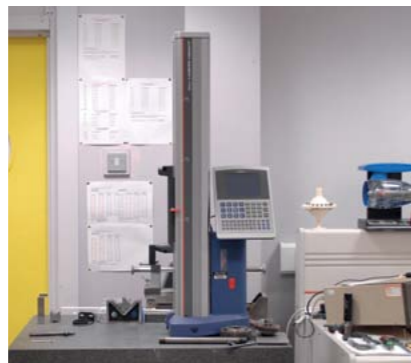
Laser Scan Microscope

DESCRIPTION:

The Laser Scan Microscope is used to measure components which cannot be physically touched. By using the laser beam to measure parts a very accurate analysis of the dimensions can be taken without actually touching them.

CONTACT:

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Tel: 0141 848 4234



Linear Height Gauge

DESCRIPTION:

This equipment allows accurate measurement of components using a probe at a constant pressure. Most dimensions are taken 2D with this equipment.

CONTACT:

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Quick Vision Ace

DESCRIPTION:

This equipment allows components which are printed (circuit boards, mother boards and similar) to be very accurately measured. Also suitable for measuring are parts which are very small or would be distorted by probing pressure.

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ENGINEERING AND COMPUTING

THIN FILMS, SENSORS AND IMAGING



MicroDyn DC Magnetron Deposition Systems

DESCRIPTION:

This is a DC magnetron sputtering system equipped with microwave plasma to enhance reaction of oxidation, nitridation, etc; polycold to achieve better vacuum and reduce contamination (H₂O); pulse units to suppress arcs to improve coating quality. Thickness control is better than 1%. System can be used for precision optical filters, sensor and semiconductor applications, protective coatings etc.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



CVC RF Magnetron Deposition System

DESCRIPTION:

Radio Frequency magnetron sputtering system. Target can be metal (conductive) and ceramic (insulative). It is suitable for single layer deposition. Generally used for PhD research projects.

CONTACT:

Prof. Des Gibson
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Tel: 0141 848 3610



PlasmaCoat DC Magnetron System

DESCRIPTION:

Compact DC magnetron sputtering system equipped with DC plasma to oxidise depositing films; pulse units to suppress arcs to improve coating quality. System can be used for optical filters, sensor and semiconductor applications, protective coatings etc.

CONTACT:

Prof. Des Gibson
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Tel: 0141 848 3610

ENGINEERING AND COMPUTING

THIN FILMS, SENSORS AND IMAGING



Plasma Assisted Electron Beam Vacuum Deposition System

DESCRIPTION:

Using Electron beam as a heat source to evaporate source materials, can be used for optical coating, protective coating, sensing. It also is equipped with glazing angle deposition device to produce nanostructured coating. It is good single layer deposition, however it is updating at the moment. After that it will be capable to do optical filters (multilayer deposition).

CONTACT:

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Tel: 0141 848 3610



Edwards 80 Plus

DESCRIPTION:

PECVD (plasma-enhanced chemical vapour deposition) system used for the production of diamond-like carbon (DLC) coatings.

CONTACT:

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Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Electron Cyclotron Resonance (ECR) Ion-Beam Deposition

DESCRIPTION:

Custom built ion-beam deposition (IBD) system, capable of producing ultra-low absorption sputtered amorphous silicon films (20ppm for a quarter layer at 1550nm). Capable of depositing at extremely low rates, across a temperature range of RT to 400C, thus capable of finely controlling short- and medium-range order in the atomic structure of films. Pilot-scale IBS system with ECR ion source for gravitational wave mirror coating research.

CONTACT:

Prof. Des Gibson
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Tel: 0141 848 3610



SubOne HC-PECVD System

DESCRIPTION:

Hollow cathode plasma-enhanced chemical vapour deposition system for modified multilayer diamond-like carbon (and other) coatings. The system is designed to coat interior surfaces of cylindrical substrates, e.g. pipes, but can be modified to coat complex shapes, planar substrates and exterior pipe surfaces. Very hard, chemically resistant coatings can be thus deposited on a range of substrate materials for a wide range of applications, including optical coatings, protective coatings and biocompatible coatings.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Scanning and Electron Microscope

DESCRIPTION:

Cold cathode field emission scanning electron microscope with resolution 1.5nm at 30kV and 20-300,000 magnification. Ultra-high vacuum Scanning electron microscope fitted with backscattered electron detector and EDX detector for elemental analysis. (Accelerating voltage range 0.5 to 30kV).

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Nanoindenter/Atomic Force Microscope (AFM)

DESCRIPTION:

Atomic force microscope for nanoscale imaging, with retrofitted (separate) nanoindenter head/control unit for nanomechanical testing.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Raman Spectrometer

DESCRIPTION:

Raman microscope capable of advanced techniques such as surface enhanced Raman scattering observations. The system comes with a range of laser wavelengths and three magnification objectives are available. Full capabilities can be found on the Thermo Scientific website. It can be used to identify material by "search and match" the existing database for Raman scattering peaks.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



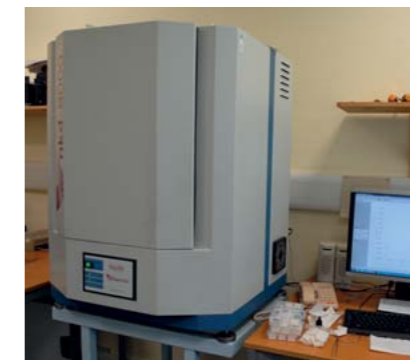
XRD X-ray Diffractometer

DESCRIPTION:

This powder X-ray Diffractometer is used for crystal structure analysis. It can be used to identify materials and also for defects and stress analysis. However it can be used for thin film analysis if thickness is thick enough > 200nm (depending on crystallinity).

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Spectrophotometer (Aquila)

DESCRIPTION:

Variable-angle scanning spectrophotometer for near UV-visible – near IR spectral regions. Instrument can simultaneously measure reflectance and transmittance of thin film sample, coated optics, etc. Polarisation is selectable, and multiple-angle measurements possible. Optical properties (n and k), thickness, roughness of coatings can be found by fitting the measured data.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Surface Energy/Optical Contact Angle Meter

DESCRIPTION:

Surface free energy and contact angle measurement system; can optically measure angles formed between sessile drop of solvent of known polar and dispersive components, and a flat sample. Measurements using 3 such different solvents can be used to calculate surface energy by a range of mathematical methods/models.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Spectral Ellipsometer

DESCRIPTION:

Spectral ellipsometer covering 190nm to 2600nm wavelength range. After measurement on sample surface and data fitting, optical properties (n and k) of the material, coating thickness, surface roughness can be obtained.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Four-point Probe

DESCRIPTION:

This is for resistivity measurement and is used for bulk material and coating. It is a contact measurement with four pins separated by 1mm distance.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Fourier Transform Infrared Spectrometer (FTIR)

DESCRIPTION:

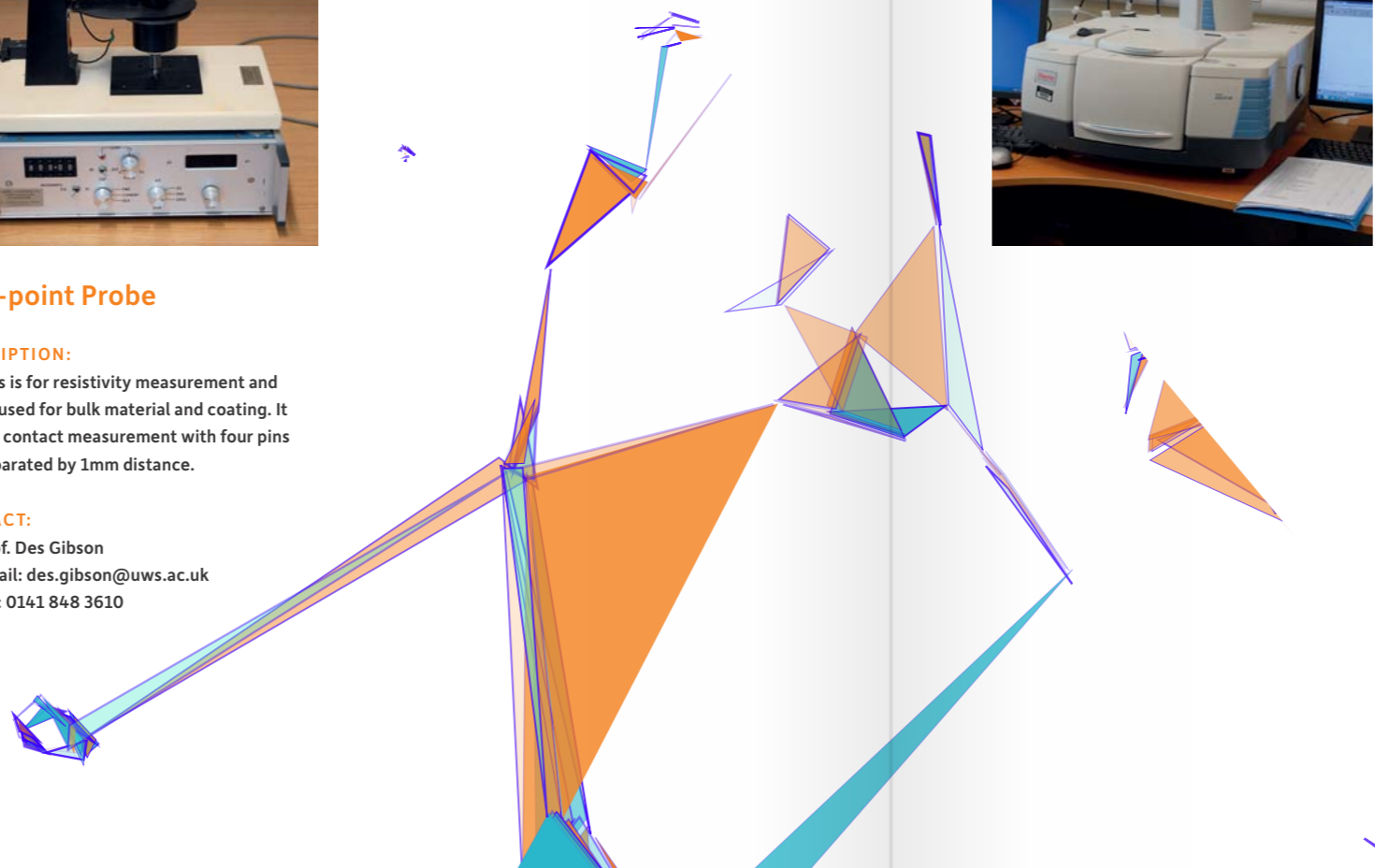
Solve analytical challenges with ease using the Thermo Scientific™ Nicolet™ iS™50 FT-IR Spectrometer, featuring purpose-built accessories and integrated software — making it an all-in-one materials analysis workstation.

Designed to be highly flexible, the Nicolet iS50 FT-IR Spectrometer can be upgraded from a simple FT-IR bench to a fully-automated multi-spectral range system that can acquire spectra from far-infrared to visible. You can initiate novel ATR, Raman and NIR modules at the touch of a button, enabling access to these techniques without manually changing system components.

Using optical fittings for measured data, optical properties (n and k), coating thickness can be obtained. It can also be used to identify materials.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
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ENGINEERING AND COMPUTING

THIN FILMS, SENSORS AND IMAGING



Voltalab Electrochemical

DESCRIPTION:

Electrochemical test rig used for electrochemical characterisation of a range of samples, including thin film coatings, metal substrates, etc. Can be used to measure corrosion rates of materials in particular environmental conditions.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



DEKTA 3ST

DESCRIPTION:

Surface profilometer; this utilises a diamond-tipped stylus to scan across the surface of a planar specimen. This has a wide range of uses, e.g. measuring film thickness (via step height masking), surface roughness and radius of curvature, hence measurement of film stress.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



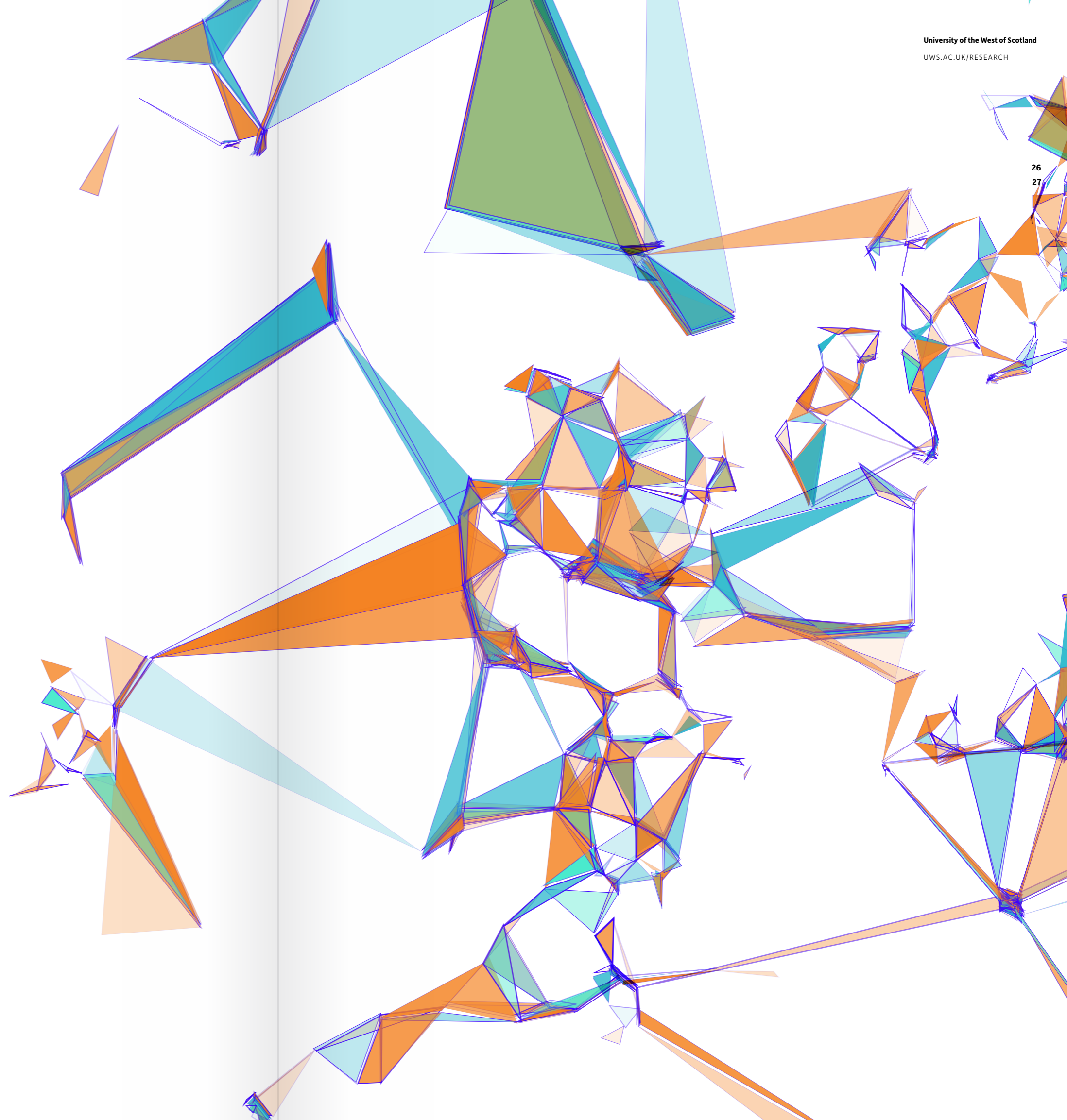
Nanokick Bioreactor

DESCRIPTION:

The nanokick bioreactor was jointly developed between UWS and the University of Glasgow, and aspects of the design are covered by a patent. Cells can be stimulated using different frequencies (up to a few kHz) at amplitudes typically around 10s of nm. Of particular note is the ability to stimulate mesenchymal stem cells to differentiate into osteoblasts (bone building cells) using this bioreactor, and funding has been secured to progress to the first in-man study of nanokicked bone-graft material. Stimulates cells with precise nanoscale stimulation (cells are vibrated by billionths of a meter, 1000 times a second).

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



ENGINEERING AND COMPUTING

THIN FILMS, SENSORS AND IMAGING



Edwards 306 Vacuum Coater

DESCRIPTION:

A machine used for vacuum coating samples with various materials inside a large chamber.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Scanning Laser Vibrometer

DESCRIPTION:

A combination of a fibre interferometer (OFV512) and an ultrasonic vibrometer controller (OFV2700) used to measure and control small movements made by ultrasonic transducers.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



Logitech PMS Lapping Polishing Machine

DESCRIPTION:

Desktop lapping/polishing machine used for material preparation.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



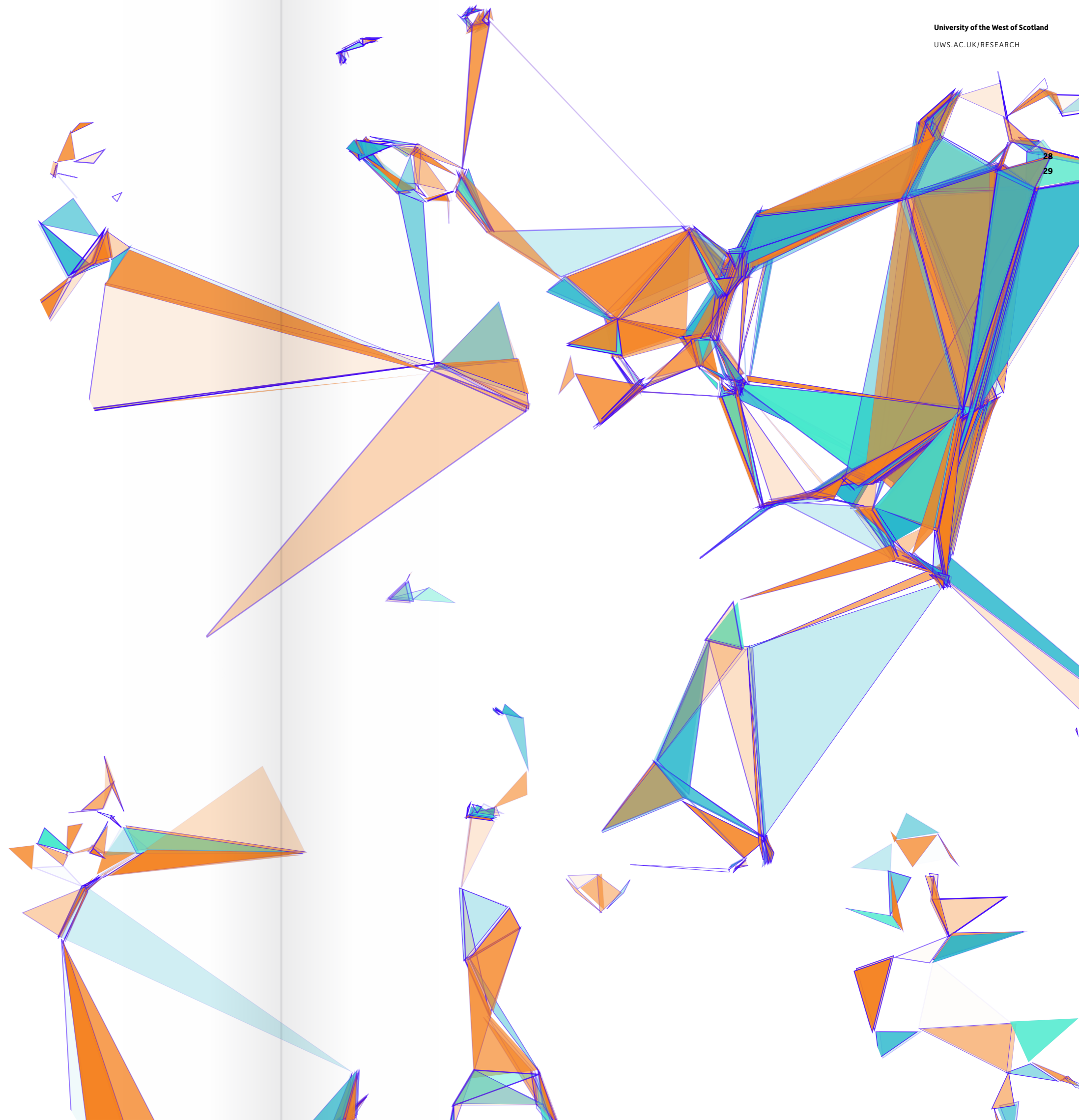
Environmental Test Chamber

DESCRIPTION:

Description: A chamber which can create varying environmental conditions by changing temperature and humidity.

CONTACT:

Prof. Des Gibson
Email: des.gibson@uws.ac.uk
Tel: 0141 848 3610



At UWS we are proud of our world-class research which spans our themes of Health, Society and Sustainability. Much is multidisciplinary and collaborative in nature but it is all based on excellence in our individual disciplines.

Our excellence in research activity is underpinned by state-of-the-art equipment and unique facilities that we can make available to academic collaborators, industrial partners and research students.

We have profiled our facilities here, in areas of Science, Sport and Health, and invite you to collaborate, to contract, and to study with us. All of these facilities will also be able to be used for novel and innovative investigations in interdisciplinary studies.

We can offer academic engagement, and a full range of technical and analytical services and support.

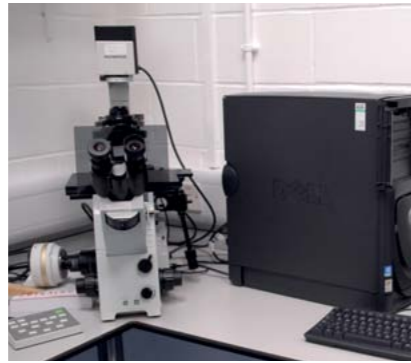
SCIENCE, SPORT AND HEALTH



Liquid Nitrogen Freezer

DESCRIPTION:
For long term cryogenic storage of cell lines and temperature sensitive materials -192°C.

CONTACT:
Anne Halliday
Email: anne.halliday@uws.ac.uk
Tel: 0141 848 3957



Inverted Fluorescence Microscope BX51

DESCRIPTION:
This equipment is used for visualisation and capture of living cellular images.

CONTACT:
Dr Mandy Glass
Email: mandy.glass@uws.ac.uk
Tel: 0141 848 3091



Fluorescence Microscope MZFL

DESCRIPTION:
This equipment is used for visualisation of fluorescence tagged matter.

CONTACT:
Dr Katherine Sloman
Email: katherine.sloman@uws.ac.uk
Tel: 0141 848 3112



Vascular Assessment Suite

DESCRIPTION:
The ex vivo vascular assessment suite at UWS allows the determination of both macro- and micro-vascular function of isolated blood vessels. The suite has been used to investigate vascular reactivity in relation to conditions as diverse as rheumatoid arthritis, obesity and preeclampsia. Furthermore the equipment and ex vivo approach can be used in drug discovery as a means of determining the efficiency and potency of putative therapeutic compounds at a defined isolated tissue targets (consisting of multiple cell types) that would neither be possible in a whole body systems nor in a cell culture approach. The current 16 channel suite allows high throughput screening of drugs and can be extended to various tissue types beyond vascular (e.g. atrial, ventricle, uterine, vas deferens, ileum, etc)

CONTACT:
Dr Andrew MacKenzie
Email: andrew.mackenzie@uws.ac.uk
Tel: 0141 848 3117



Florescent Activated Cell Sorter

DESCRIPTION:
This cell sorter uses the flow cytometry method for sorting a heterogeneous mixture of biological cells into two or more containers, one cell at a time, based upon the specific light scattering and fluorescent characteristics of each cell.

CONTACT:
Dr Anne Crilly
Email: anne.crilly@uws.ac.uk
Tel: 0141 848 3555



EVOS Microscope

DESCRIPTION:
This EVOS system is used for cell imaging, from cell culture to complex protein analysis and multi-channel fluorescence imaging, capturing images for publication, teaching, or research.

CONTACT:
Dr Anne Crilly
Email: anne.crilly@uws.ac.uk
Tel: 0141 848 3555



Inverted Florescent Microscope IX71

DESCRIPTION:
This equipment is used for visualisation and capture of living cellular images.

CONTACT:
Dr Mandy Glass
Email: mandy.glass@uws.ac.uk
Tel: 0141 848 3091



Autoclaves

DESCRIPTION:
This equipment is used for sterilisation of equipment and media.

CONTACT:
Yvonne Carmichael
Email: yvonne.carmichael@uws.ac.uk
Tel: 0141 848 3103



-80 Freezer

DESCRIPTION:
This equipment is used for medium to long-term storage of cell lines and temperature sensitive items.

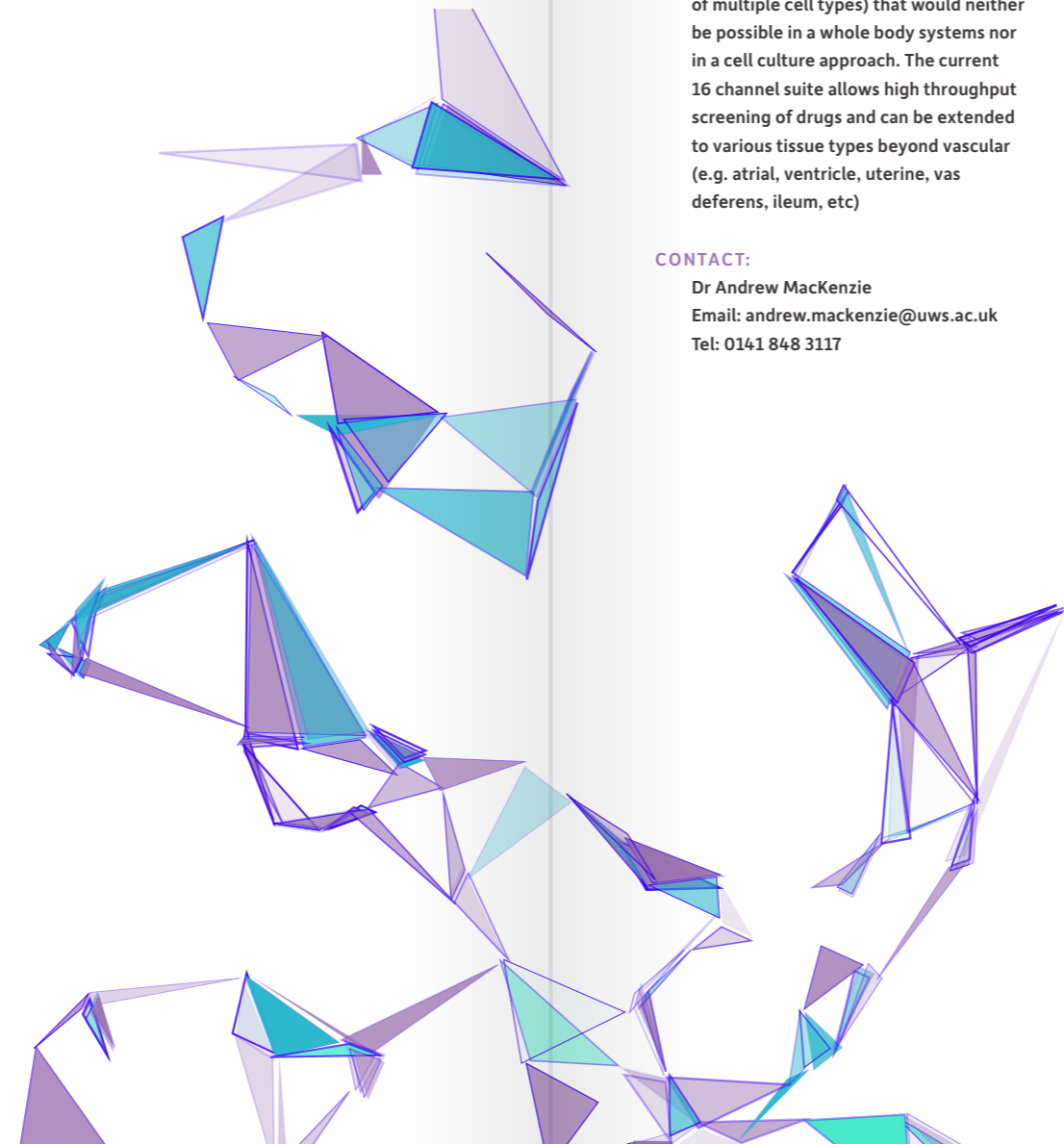
CONTACT:
Dr Gary Litherland
Email: gary.litherland@uws.ac.uk
Tel: 0141 848 3134



Extraction Platform for RNA and DNA

DESCRIPTION:
This equipment identifies viruses, bacteria and fungus.

CONTACT:
Dr Fiona Henriquez
Email: fiona.henriquez@uws.ac.uk
Tel: 0141 848 3119





Shaking Incubator

DESCRIPTION:
This equipment rotates containers at various speeds to increase the growth process of cells.

CONTACT:
Dr Fiona Henriquez
Email: fiona.henriquez@uws.ac.uk
Tel: 0141 848 3119



Ultrasonic

DESCRIPTION:
This equipment lyses cells for DNA/RNA extraction DNA.

CONTACT:
Dr Fiona Henriquez
Email: fiona.henriquez@uws.ac.uk
Tel: 0141 848 3119



Spectrophotometer

DESCRIPTION:
This equipment identifies and quantifies DNA and RNA in very small volumes.

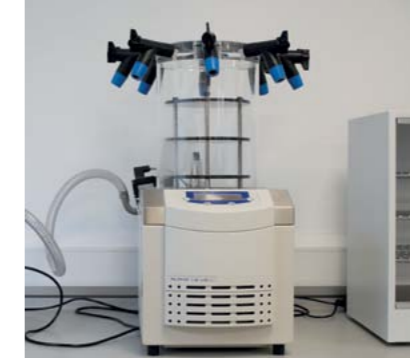
CONTACT:
Dr Robin Freeburn
Email: robin.freeburn@uws.ac.uk
Tel: 0141 849 4901



Tissue Processor

DESCRIPTION:
This equipment is used to process tissue for wax embedding of samples.

CONTACT:
Lynette Dunning
Email: lynette.dunning@uws.ac.uk
Tel: 0141 211 2152



Freeze Dryer

DESCRIPTION:
This dryer removes water from samples without denaturing the sample.

CONTACT:
Dr Mohammed Yaseen
Email: mohammed.yaseen@uws.ac.uk
Tel: 0141 848 3628



Rotary Evaporator

DESCRIPTION:
This equipment is used to remove organic solvents from chemicals.

CONTACT:
Dr Mohammed Yaseen
Email: mohammed.yaseen@uws.ac.uk
Tel: 0141 848 3628



Biological Class II Safety Cabinet

DESCRIPTION:
This Class II equipment protects both user and substrate while working in a sterile environment.

CONTACT:
Anne Halliday
Email: anne.halliday@uws.ac.uk
Tel: 0141 848 3957



UV Transilluminator

DESCRIPTION:
This equipment is used to visualise DNA in Agarose gel.

CONTACT:
Dr Robin Freeburn
Email: robin.freeburn@uws.ac.uk
Tel: 0141 849 4901



PCR Machine

DESCRIPTION:
This equipment is used to amplify small quantities of DNA.

CONTACT:
Dr Robin Freeburn
Email: robin.freeburn@uws.ac.uk
Tel: 0141 849 4901



Embedding Centre

DESCRIPTION:
This equipment is used to ensure correct tissue orientation avoiding heat damage and to create an ideal block shape before cutting on a microtome.

CONTACT:
Lynette Dunning
Email: lynette.dunning@uws.ac.uk
Tel: 0141 211 2152



Spin Coater

DESCRIPTION:
This equipment is used to coat materials eg drugs.

CONTACT:
Dr Mohammed Yaseen
Email: mohammed.yaseen@uws.ac.uk
Tel: 0141 848 3628



CO₂ Incubator

DESCRIPTION:
Used to grow cell cultures at 37°C and 5% CO₂ level. The environment can also be altered.

CONTACT:
Dr Mandy Glass
Email: mandy.glass@uws.ac.uk
Tel: 0141 848 3091



Ion Chromatography Plasma Mass Spectrometry (ICPMS)

DESCRIPTION:
The ICP-MS offers limits of detection down to parts per billion and therefore is suitable for trace metal analysis. At UWS the ICP-MS is used to determine levels of metals in soils, sediments, waters, vegetation and blood.

CONTACT:
Prof. Andrew Hursthouse
Email: andrew.hursthouse@uws.ac.uk
Tel: 0141 848 3213



ION Coupled Plasma (ICAP)

DESCRIPTION:
This multi-element analysis is used for measuring trace elements in a diverse sample range.

CONTACT:
Prof. Andrew Hursthouse
Email: andrew.hursthouse@uws.ac.uk
Tel: 0141 848 3213



Scintillation Counter

DESCRIPTION:
This counter is used to measure quantities of radioactively labelled samples.

CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Graphite Furnace

DESCRIPTION:
This furnace atomises samples, for metal quantification in parts per trillion.

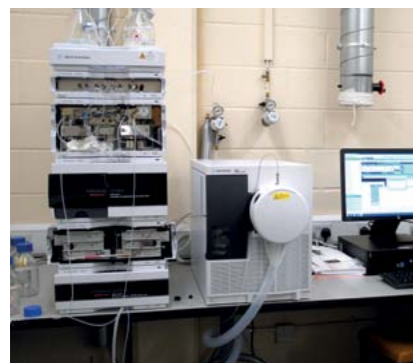
CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Gas Chromatography

DESCRIPTION:
This equipment is used to separate molecules and mixtures for identification and quantification.

CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Liquid Chromatography Mass Spectrometer (LCMS)

DESCRIPTION:
This analytical chemistry laboratory technique is used for the identification, quantification and mass analysis of materials through fragmentation.

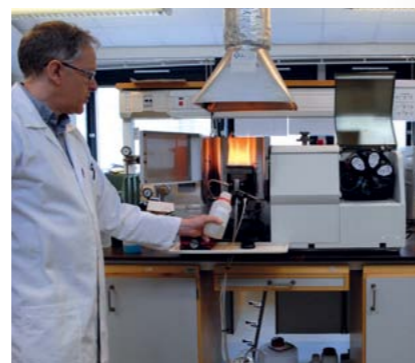
CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Nuclear Magnetic Resonance (NMR)

DESCRIPTION:
The NMR exploits the magnetic properties of certain atomic nuclei and is used in a wide range of analyses. It determines the physical and chemical properties of atoms or the molecules in which they are contained.

CONTACT:
Dr Mostafa Rateb
Email: mostafa.rateb@uws.ac.uk
Tel: 0141 848 3072



Atomic Absorption Spectroscopy (AAS)

DESCRIPTION:
This equipment is used for the qualitative and quantitative analysis of metals.

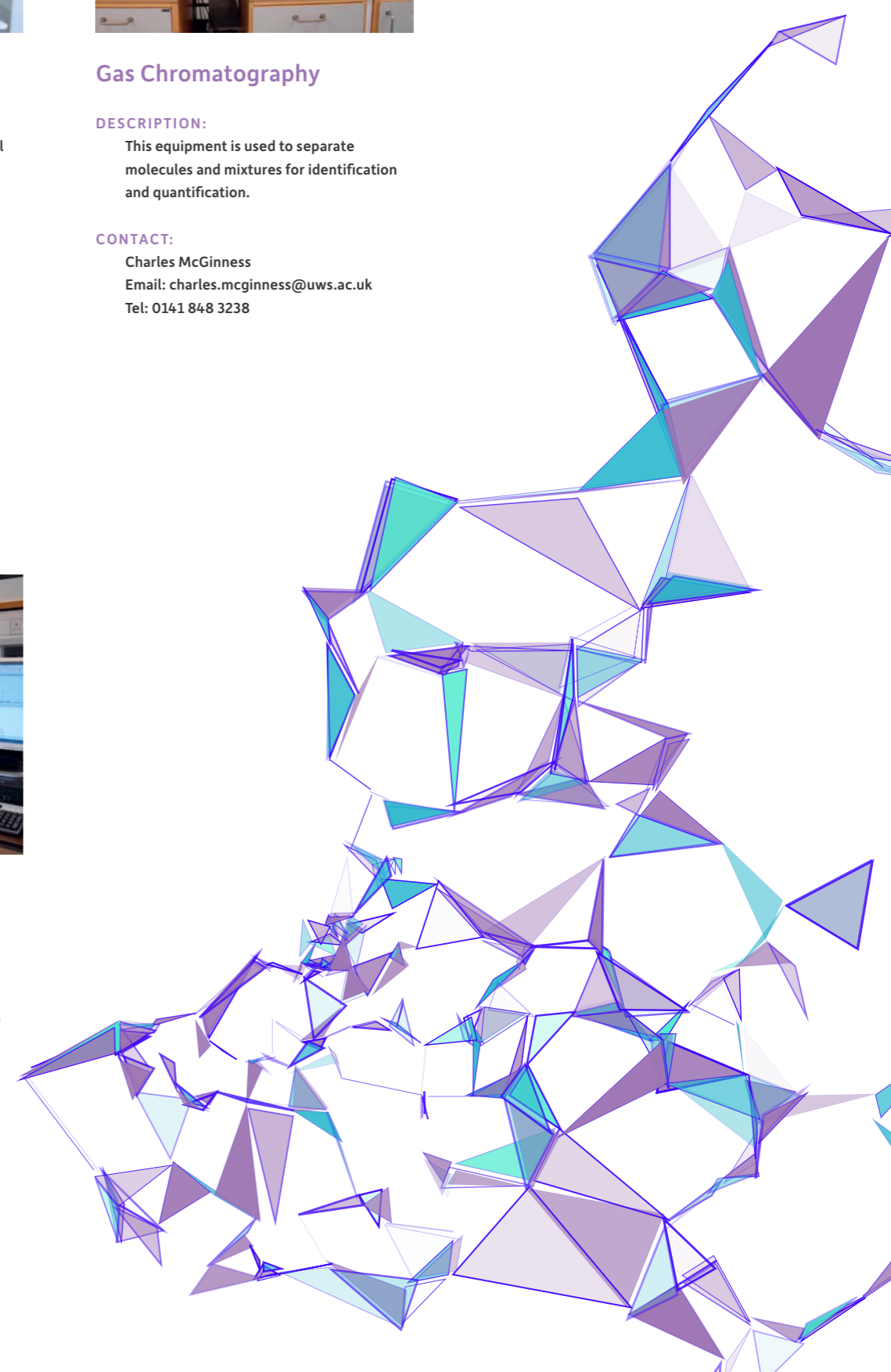
CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238

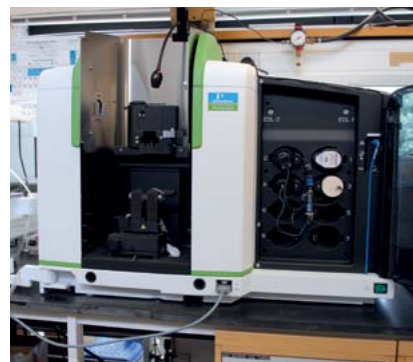


Ultraviolet Spectrophotometer

DESCRIPTION:
UV/Vis spectroscopy is routinely used in analytical chemistry for the quantitative determination of different analytes, such as transition metal ions, highly conjugated organic compounds, and biological macromolecules.

CONTACT:
Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238





Ion Chromatography System

DESCRIPTION:

Ion chromatography is used for qualitative and quantitative analysis of substances in solution.

CONTACT:

Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Gas Chromatography and Mass Spectroscopy

DESCRIPTION:

This equipment is used in the analysis and breakdown of molecules and produces information on the mass of the molecules.

CONTACT:

Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Infrared Spectrophotometer

DESCRIPTION:

IR spectroscopy is used to analyse organic compound functional groups.

CONTACT:

Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Attenuated Total Reflectance (ATR)

DESCRIPTION:

This equipment analyses organic samples with no preparation required.

CONTACT:

Charles McGinness
Email: charles.mcginness@uws.ac.uk
Tel: 0141 848 3238



Domestic Space

DESCRIPTION:

The Domus Initiative is a highly adapted domestic environment that is focused on the needs of the vulnerable older adult in particular the person who has dementia. The environment itself is divided into four zones including a sitting area, a dining area, a bathroom and a fully working kitchen. The entire area is fully equipped with a carefully chosen colour scheme suitable to the older eye and with specially selected furnishings, lighting and a range of assistive technology all of which serve to highlight the importance of adaptation in catering to the contemporary needs of this client group.

CONTACT:

Margaret Brown
Email: margaret.brown@uws.ac.uk
Tel: 01698 283100



Reminiscence Space

DESCRIPTION:

This space is used for a range of group activities but is usually set up as a 70s themed sitting room. This is intended to introduce the concepts of reminiscence as a therapeutic approach. This is based on the idea that memories can be used to focus the person with dementia on past experiences. This uses the stronger memories available to the person and can induce feelings of contentment, stimulate interest and focus on the person's strengths. The 70's theme is used to remind caregivers that not all people who have dementia are old and therapeutic activities should be designed to suit the person.

CONTACT:

Margaret Brown
Email: margaret.brown@uws.ac.uk
Tel: 01698 283100



Sensory Space

DESCRIPTION:

The environment is based on the principles of Snoezelen®. This approach is derived from the words "snuffeln" (to sniff, to snuffle) and "doezelen" (to doze, to snooze). It was developed in the Netherlands in the seventies and used in institutions caring for severely disabled people. Behind Snoezelen® is a belief that stimulating the senses can create interest, bring back memories and induce well-being.

Essentially, Snoezelen® is the trade name for this multi-sensory experience and this room is more appropriately called a multi-sensory environment. It may be used for people who have a learning disability, dementia, depression and anxiety and indeed simply for stress reduction. It has also been successfully used in palliative care settings.

CONTACT:

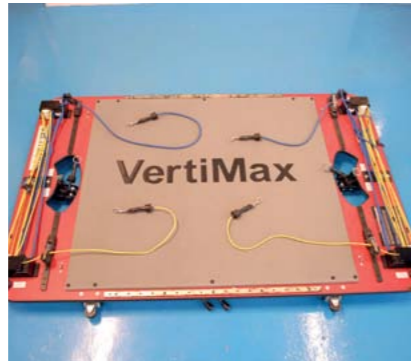
Margaret Brown
Email: margaret.brown@uws.ac.uk
Tel: 01698 283100



Whole Body Vibration Platform

DESCRIPTION:
Vibration platforms induce a hyper-gravity condition by generating accelerated vibrations. These vibrations produce oscillations within muscles and they respond to these oscillations by presenting a tonic vibration reflex that stimulates and passively works out musculoskeletal system.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Verti-Max Pro

DESCRIPTION:
This vertical jump and speed training system designed for multi-point leg and arm loading on-platform, increasing lower body reactive power and improving explosive leg power, increasing speed, jumping ability and rehabilitation.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



ACU Fit

DESCRIPTION:
This equipment is used for physiotherapy, massage and acupuncture.

CONTACT:
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Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



ENRAF – NONIUS

DESCRIPTION:
This equipment provides ultra sound therapy, and bioelectrical feedback for the treatment of muscular injuries.

CONTACT:
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Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Biometric EMG With DataLog MWX8

DESCRIPTION:
This Surface EMG is used for muscle contraction electrical activity.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Ultrasound Machine

DESCRIPTION:
One of the greatest proposed benefits of ultrasound therapy is that it is thought to reduce the healing time of certain soft tissue injuries. Ultrasound is thought to accelerate the normal resolution time of the inflammatory process by attracting more mast cells to the site of injury. This may cause an increase in blood flow which can be beneficial in the sub-acute phase of tissue injury. As blood flow may be increased it is not advised to use ultrasound immediately after injury.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



SECA CT8000P Interpretive ECG Monitor

DESCRIPTION:
This equipment records the electrical activity of the heart via metal electrodes. Used to identify heart conditions (arrhythmias, palpitations etc.) and to facilitate exercise prescription.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Care Fusion MicroLab with Spida Software

DESCRIPTION:
The portable Spirometer is used to conduct pulmonary function tests (PFTs), measuring lung function, specifically the amount (volume) and/or speed (flow) of air that can be inhaled and exhaled and generate pneumotachographs (assessing conditions such as asthma, pulmonary fibrosis, cystic fibrosis, and COPD).

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Cortex MetaMax 3B with MetaSoft Studio Software

DESCRIPTION:
This MetaMax is a portable Cardiopulmonary Exercise Testing system, offering outdoor performance diagnostics.

CONTACT:
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Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Nonin Onyx Pulse Oximeter

DESCRIPTION:
This oximeter measures the proportion of oxygenated haemoglobin (Peripheral Oxygen Saturation (SpO2) in the blood in pulsating vessels of the finger.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Alere Cholestech LDX® Analyzer

DESCRIPTION:
The CLIA-waived Alere Cholestech LDX® Analyzer is engineered for confidence, providing accurate, actionable, and readily accessible results that have set the standard in point-of-care lipid profile, cholesterol, and glucose testing.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



PhysioFlow (Manatec Biomedical), PF-07 Enduro (with software)

DESCRIPTION:
This equipment is a portable non-invasive transthoracic electrical bio-impedance device, provides cardiac output and stroke volume, along with other parameters during exercise.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



NIRO 2000 HAMMAMATSU

DESCRIPTION:
This tissue oxygenation monitor that uses near infrared spectroscopy. It measures the Tissue Oxygenation Index (TOI), showing the oxygen saturation level, the Normalised Tissue Haemoglobin Index (nTHI), showing the percentage change in the amount of initial haemoglobin, as well as changes in concentration of oxygenated haemoglobin (ΔO_2Hb), deoxygenated haemoglobin (ΔHHb), and total haemoglobin (ΔcHb), all in real time.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Power Breathe Sports Performance Plus

DESCRIPTION:
Inspiratory Muscle trainer.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



TempCon Squirrel SQ2040-2F16 Data Logger

DESCRIPTION:
These skin thermistors for acquiring body surface temperature.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



BodyStat 1500

DESCRIPTION:
This equipment provides bio-impedance body composition measurement, analysis and tracking (body fat percentage, fat weight, lean mass, BMR, BMI, Waist-Hip ratio).

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Polar Heart Rate Monitors (FT1, Wearlink, Loop, V800, H7)

DESCRIPTION:
These heart rate sensors that connect directly via Bluetooth Technology to a fitness app, training device or PC to record and track progress.

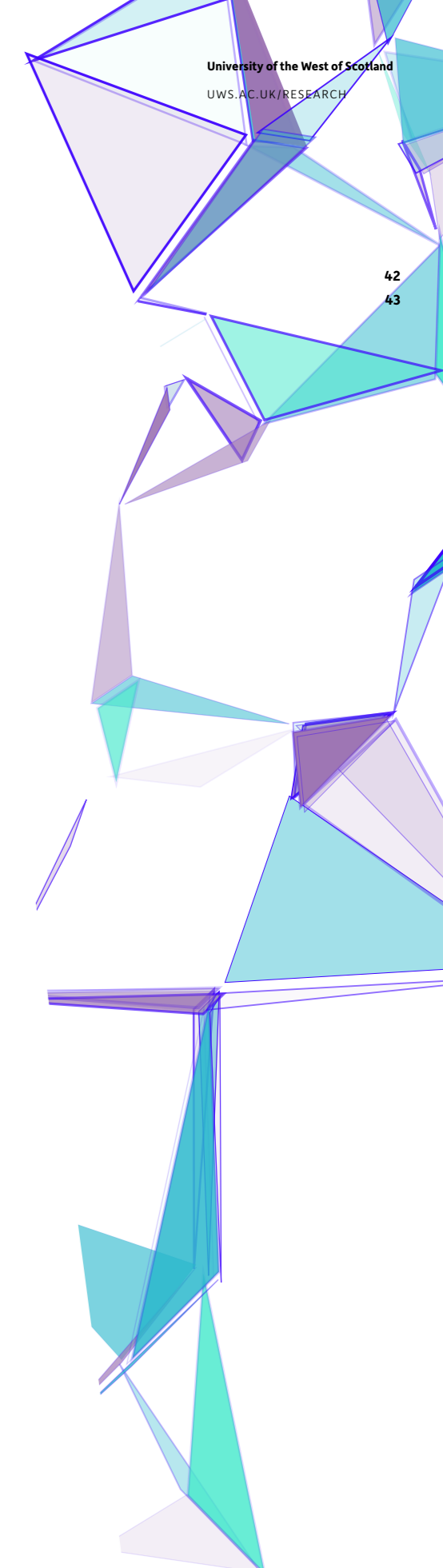
CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Harpenden Skin Fold Callipers

DESCRIPTION:
The manual skinfold calliper is used for skinfold measurements and calculating body fat.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100





GPS Sports Systems, SPI PRO XII (Plus Software)

DESCRIPTION:
This wearable GPS provides tracking for competitive sports including live distance, speeds, heart rate, impacts and body load, work rate markers. Capable of analysing training volume, intensity, work rate, currently used in rugby and football teams.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Brower TC Timing Gate System

DESCRIPTION:
A wireless portable timing device that enables scientists to measure time, speed, count repetitions, input test data and save it all in the TC-Timer memory. The TC-System can send radio transmissions up to one thousand feet and is accurate to the thousandth of a second.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Wattbike PRO

DESCRIPTION:
This indoor training and exercise bike measures power, speed and performance. PC connectivity to dedicated software.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
Tel: 01698 283100



Lode Angio Arm Crank (Plus Software)

DESCRIPTION:
This ergometric unit that can be used for both arm and supine ergometry.

CONTACT:
Maria Chatzi
Email: maria.chatzi@uws.ac.uk
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H/P Cosmos Treadmill

DESCRIPTION:
Motorised treadmill.

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Maria Chatzi
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Tel: 01698 283100



ServoMEX MiniMP 5199 Gas Analyser and Douglas Bags Cart Systems

DESCRIPTION:
This equipment provides expired gas (CO₂ and O₂) collection and analysis systems during exercise and various fitness testing protocols.

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Waldmann UV 302LUVA Bed

DESCRIPTION:
This UV bed is used in VitD uptake research.

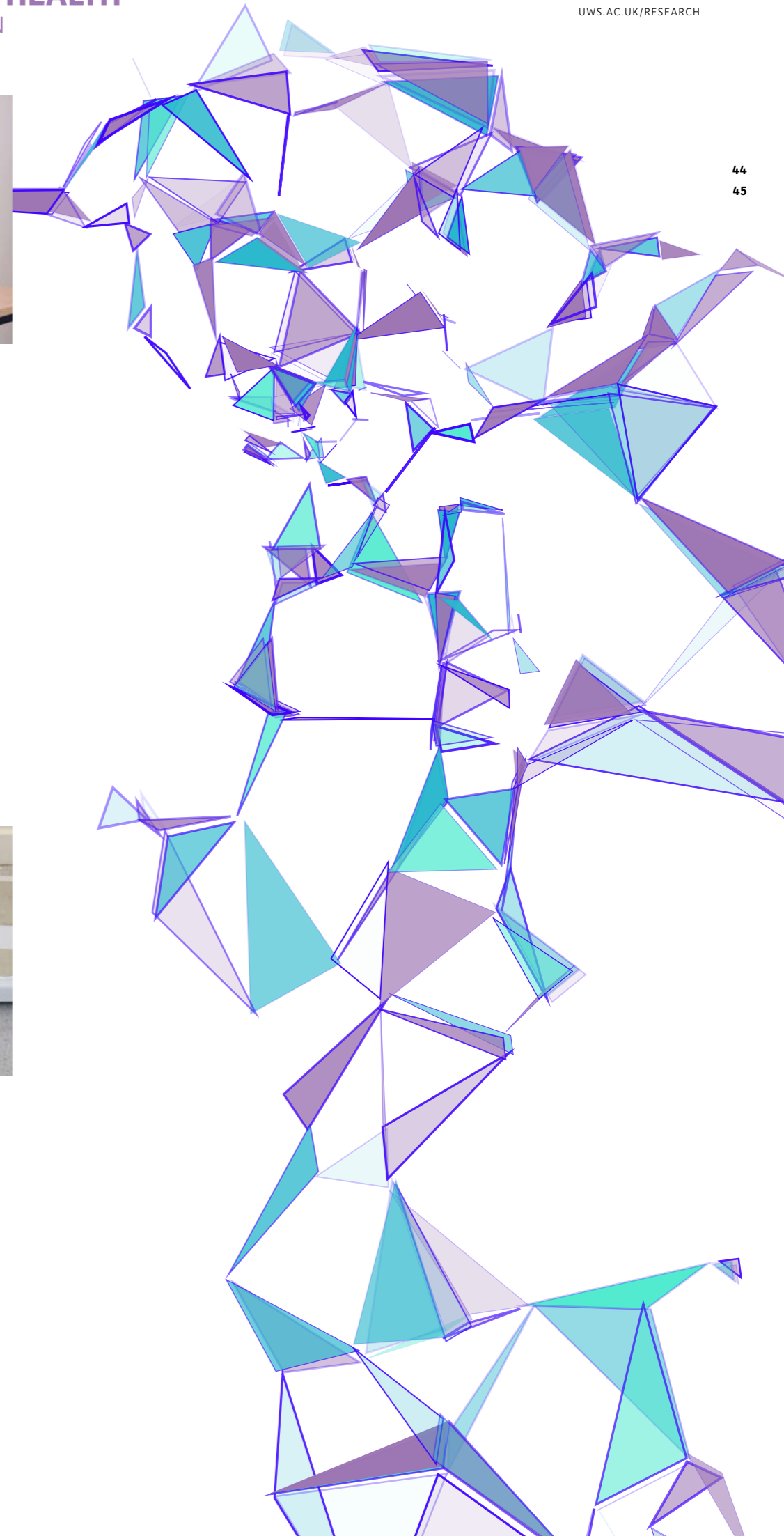
CONTACT:
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Tanita BC-418 Segmental Body Composition Analyser/Scale

DESCRIPTION:
This body composition analyser using bio impedance is used to assess BMI, BMR, Fat %, Fat Mass, Fat Free Mass, Total Body Water, and desirable ranges for Fat % and Fat Mass.

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Ergoselect 1200P Stress Echo Supine Ergometer Ergoline

DESCRIPTION:
This tilt-recline ergometer is used for dynamic stress echocardiographic examinations. The angle of inclination can be electrically set both horizontally and laterally between 0 and 45°. The drop section of the couch facilitates the ultrasound examination. Programming of exercise protocols, and universal ECG interfaces.

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RX Monza Analyser, RANDOX Laboratories

DESCRIPTION:
This semi-automated clinical chemistry analyser is capable of performing routine chemistry, lipids, diabetes, electrolytes, cardiac, renal & liver function, coagulation and various other biomarkers of health and performance.

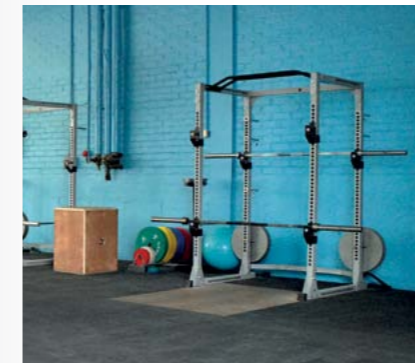
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Sievers Nitric Oxide Analyzer NOA 280i

DESCRIPTION:
This Ozon-Chemiluminescence technology is used in the analyses of biological samples and exhaled breath samples to identify nitric oxide, nitrite, nitrate or nitrosothiols.

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Tel: 01698 283100



Squat Rack (x 4), Power Rack

DESCRIPTION:
This equipment is used for developing muscular strength in the legs using free weights.

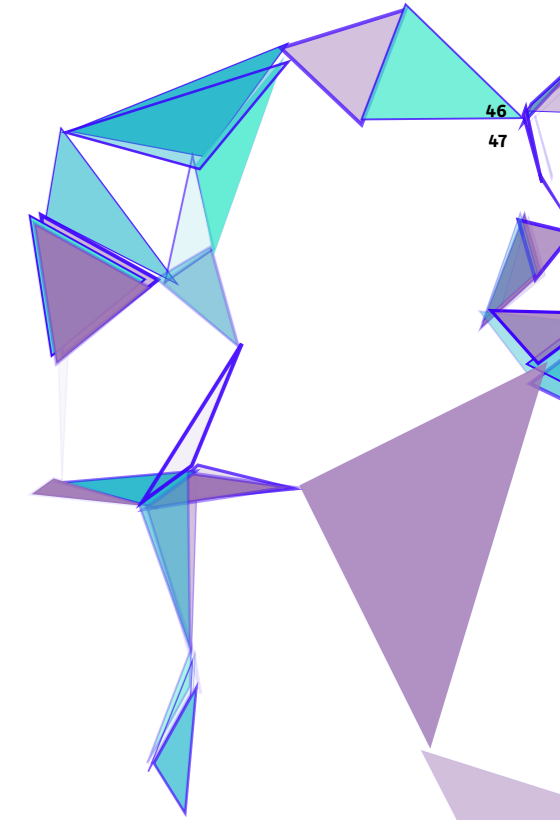
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Concept II Rower Ergometer, Model D

DESCRIPTION:
This indoor rower is used for cardiovascular training.

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Ultrasound Machine and Echocardiographer, General Electric, GE Vivid 7 CRT Version

DESCRIPTION:
This equipment produces an echocardiogram (ultrasound scan) of the heart. The scan can give accurate pictures of the heart muscle, the heart chambers and structures within the heart such as the valves.

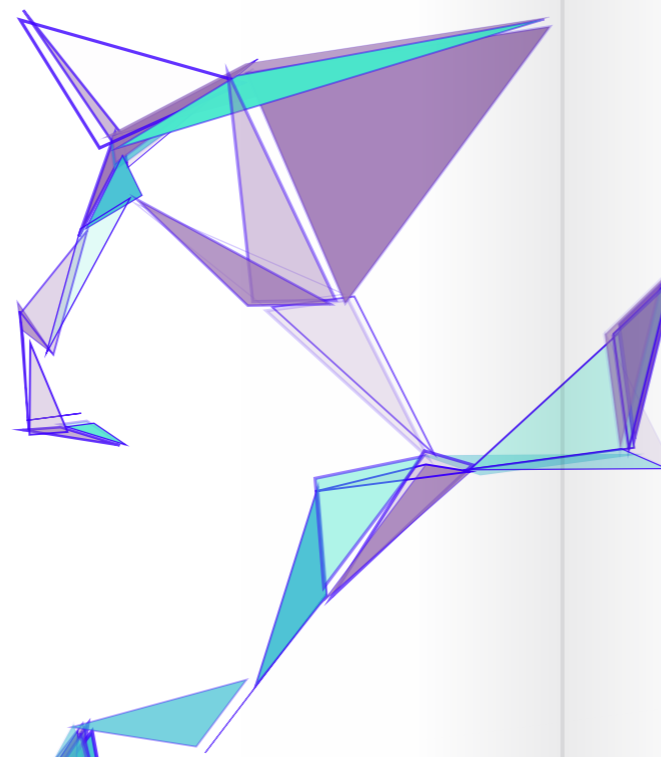
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Woodway Force Treadmill

DESCRIPTION:
The Force is a stationary sport loading platform designed specifically for speed, acceleration, and athletic performance training.

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Woodway PPS 55Sport-I

DESCRIPTION:
This medical grade treadmill used for endurance training, diagnostics and performance testing of patients in the laboratory (e.g. ergospirometry), performance diagnostics of endurance, stress testing, gait training and gait analysis, exercise therapy/rehabilitation training in Rehabilitation (Locomotion Therapy).

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Ultima CPX with BreezeSuite Software

DESCRIPTION:
This Pulmonary Function and Gas Exchange System is used extensively in breath by breath analysis, exercise stress testing, lactate threshold testing, base metabolic rate etc.

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Lode Cycle Ergometer, Lode Excalibur Sport with LEM Software

DESCRIPTION:
This high profile cycle ergometer is designed for training and testing cyclists or research subjects. It can be used to perform a variety of tests (anaerobic tests, explosive power, determination of load and connection with breath by breath analysers).

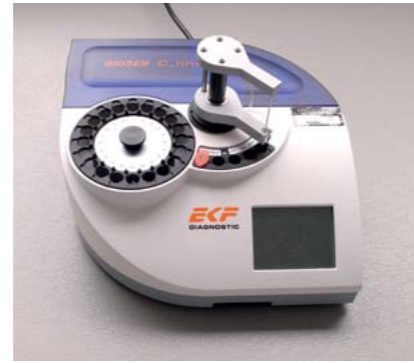
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Harrier MSE 18/80R

DESCRIPTION:
A refrigerated benchtop centrifuge used for blood analyses with a temperature range of -9 to +40 with maximum rotational speed in excess of 18,000 RPM giving a maximum 'g' force of 28,980 g.

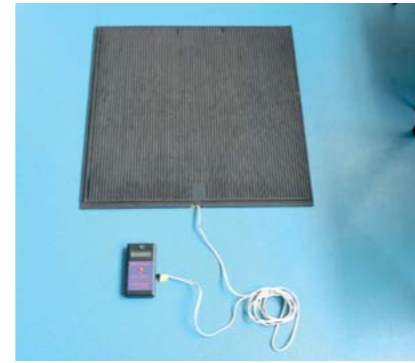
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Biosen C_Line Sport Dual Channel, EKF Diagnostics

DESCRIPTION:
This equipment is used for Biosen tests blood, plasma or serum to provide glucose and lactate values with precision over a wide measurement range in up to 20 samples. Portable and easy to use in field testing.

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Jump Mat (Just Jump Mat x 2)

DESCRIPTION:
The Just Jump system is a jump mat that is being used extensively in Performance Sport. Hand held computer displays height and hang time for one jump, ground contact time for one jump and average height and flight time for four jumps.

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Vicon System, Bonita with Motion Capture Software

DESCRIPTION:
In the biomechanics laboratory there is an 8 camera Vicon Bonita System integrated with AMTI force plates and a Myon 320 Electromyography System. The motion system is able to track the trajectory of retroreflective markers placed on the joints or segments of the body. For a description of the human movement science the acquired data is then processed and analysed using Vicon Nexus.

CONTACT:
Dr U.Chris Ugbole
Email: u.ugbolue@uws.ac.uk
Tel: 01698 283100



Golf Swing Apparatuses

DESCRIPTION:
The golf swing apparatus comprises a golf net, golf mat, golf balls, golf gloves, golf clubs and golf training aids.

CONTACT:
Dr U.Chris Ugbole
Email: u.ugbolue@uws.ac.uk
Tel: 01698 283100



HE 6x6 AMTI Low Capacity Platform

DESCRIPTION:
This embedded force plate is used for human proprioception testing, ground reaction forces generated by a body standing on or moving across them, to quantify balance, gait and other parameters of biomechanics.

CONTACT:
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Tel: 01698 283100



-80 Freezer REVCO (Thermo Scientific Revco CxF -86°C Chest Freezer)

DESCRIPTION:
Sample storage with a temperature control and LED display.

CONTACT:
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Altium i10 (External Collaboration)

DESCRIPTION:
This personal hypoxia device is used in the simulation of altitude training via rebreathing.

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MIE Digital Pinch-Grip and Multi-Analyser

DESCRIPTION:
This device is both a hand grip dynamometer and a pinchometer i.e. it is capable of providing hand grip and pinch force output measures. Within the laboratory it is used in conjunction with the Myon 320 Electromyography System for ascertaining maximum grip strengths and evaluating hand grip and pinch performance.

CONTACT:
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Tel: 01698 283100



EMG – MYON (MYON 320 Wireless EMG System-8Channels Plus Software)

DESCRIPTION:
This is a wireless 8 channel electromyography system with the most advanced technology on the market today.

CONTACT:
Dr U.Chris Ugbole
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Tel: 01698 283100



At UWS we are proud of our world-class research which spans our themes of Health, Society and Sustainability. Much is multidisciplinary and collaborative in nature but it is all based on excellence in our individual disciplines.

Our excellence in research activity is underpinned by state-of-the-art equipment and unique facilities that we can make available to academic collaborators, industrial partners and research students.

We have profiled our facilities here, in areas of Media, Culture and Society, and invite you to collaborate, to contract, and to study with us. All of these facilities will also be able to be used for novel and innovative investigations in interdisciplinary studies.

We can offer academic engagement, and a full range of technical and analytical services and support.

MEDIA, CULTURE AND SOCIETY



TV Studio

DESCRIPTION:
Sound proofed TV Studio with three cameras linked to Tricaster system for mixing and recording. Two of the cameras are fitted with auto cue and there is a complete set of Kinoflow lights.

CONTACT:
Keith Bird
Email: keith.bird@uws.ac.uk
Tel: 01292 886343



Sony FS700

DESCRIPTION:
Super 35mm digital cinema camera with super slo-motion.

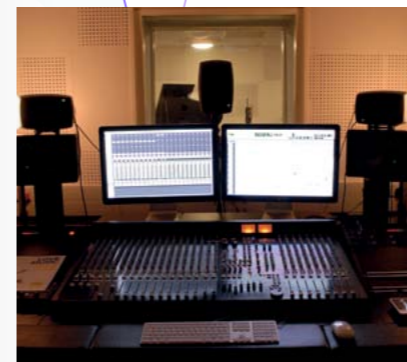
CONTACT:
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Email: keith.bird@uws.ac.uk
Tel: 01292 886343



Yamaha GB1 with Disclavier System

DESCRIPTION:
Baby grand piano with self-playing Disclavier system that allows MIDI recordings to be played through the piano.

CONTACT:
Keith Bird
Email: keith.bird@uws.ac.uk
Tel: 01292 886343



Music Studio Control Room 1

DESCRIPTION:
Pro Tools HDX equipped music recording studio.

CONTACT:
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Email: keith.bird@uws.ac.uk
Tel: 01292 886343



Samyang Lenses

DESCRIPTION:
5 Prime Lenses for Canon Cameras.

CONTACT:
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Tel: 01292 886343



Go Pro

DESCRIPTION:
Video Camera Mount. Mount to attach Go pro to glass or similar surface.

CONTACT:
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Tel: 01292 886343



Go Pro Hero 4

DESCRIPTION:
Compact high-quality action camera.

CONTACT:
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Email: keith.bird@uws.ac.uk
Tel: 01292 886343



Go Pro Jaws: Flex Clamp

DESCRIPTION:
Mount to attach go pro to railing or similar.

CONTACT:
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Tel: 01292 886343



Neumann U87

DESCRIPTION:
Multi-Pattern Large diaphragm condenser microphone.

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Tel: 01292 886343



TV Studios Camera

DESCRIPTION:
Three xJVC video cameras permanently installed in TV1. Two have auto cue attached. The cameras are linked to Tricaster mixing software in the gallery.

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Fixed Eye Tracker Lab

DESCRIPTION:
This is the Fixed eye tracker Lab which is used in the study of visual perception, reading research, and attention processes. By monitoring exactly where a user is looking when presented with a visual stimulus, psychologists can infer how visual information is being processed and where the viewer is attending at a given point in time. An example of an eye tracker in use would be monitoring how different packaging designs are effective at attracting the visual attention of shoppers.

CONTACT:
Prof. Jim McKechnie
Email: jim.mckechnie@uws.ac.uk
Tel: 0141 848 3784



Large Psychology Lab

DESCRIPTION:
The large psychology teaching lab is set up to monitor both individual and group work. By using experimental editing software psychologists present visual and auditory stimuli to viewers with millisecond accuracy while monitoring the viewer's reaction to the stimuli. If one was interested in the length of time it took a customer to navigate your website this type of laboratory set up would be appropriate.

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Tel: 0141 848 3784

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