

Crop Science  
Oil & Gas  
The Environment  
Food & Drink  
Life Sciences  
Contract Research

The James Hutton Institute is a respected, globally recognised research organisation. Scientists at the James Hutton Institute follow the inspiration of James Hutton, whose observations on Scotland's rock, soils, agriculture and landscapes forever changed the way we think about the world.

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Making an impact through science, James Hutton Limited draws on the scientific expertise, intellectual property, facilities and resources of the James Hutton Institute to offer a comprehensive range of analytical, research and development, crop science and scientific project services.





## CROP SCIENCE

The James Hutton Institute's Dundee site is hailed as a global centre for crop genetics research, underpinned by some of the best characterised and most diverse germplasm collections in the world.

Home to the Commonwealth Potato Collection and burgeoning populations of barley, soft fruit and brassica, these collections are used to identify desirable genes for valuable traits which include pest and disease resistance, yield improvement and increased abiotic stress tolerance, as well as improved nutritional quality, flavour, texture or shelf life.

A vast array of available plant science and research is utilised by James Hutton Limited's own soft fruit and potato breeders to give customers the best possible results - our customers include commercial stakeholders in breeding programmes for raspberry, blackcurrant, blueberry, blackberry and potato.

James Hutton Limited also offers a range of molecular diagnostic tests which can detect specific sequences in plant DNA or RNA that may be associated with disease resistance, quality/agronomic traits and varietal issues. These tests can be applied to early generation breeding material or developed varieties using a range of tissue types. James Hutton Limited can offer a range of diagnostics for soft fruit, potato, barley and soil.

Integrated Pest and Disease Management (IPM) is another area where the James Hutton Institute excels with a huge amount of experience and specialties. IPM is an approach to managing the impact of a crop's pests, pathogens and weeds that achieves environmental and economic sustainability. Various IPM services are available.

## OIL & GAS

James Hutton Limited supports a number of large operators to solve problems through analytical chemistry services. An established team of world-leading scientists, based in state of the art laboratories at the James Hutton Institute's Aberdeen site, provides expert analysis and interpretation of results enabling the delivery of powerful solutions.

Most materials can be analysed for the oil and gas industry – large, small, liquid or solid. This might include oils, sludges, sediments, produced waters/solids, minerals and drill cuttings. In particular, specialisms lie in problem samples and identifying 'unknowns'.

People are what set us apart from other analytical laboratories. The scientists that carry out analyses for James Hutton Limited are dedicated experts in their own techniques with many years of experience, providing a more detailed understanding and interpretation of results than a high throughput laboratory would. A small, close knit team also means that techniques are often combined to find the most accurate results for clients and there are extensive material libraries and experiences to draw from.

## THE ENVIRONMENT

Much of the research at the James Hutton Institute leads back to the environment and that's where the name comes from – James Hutton was a leading figure of the Scottish Enlightenment, he is internationally regarded as the founder of modern geology and one of the first scientists to describe the Earth as a living system.

The James Hutton Institute is synonymous with soils with over 90 years experience of working with soils and farmers, as well as being responsible for the National Soils Database for Scotland. James Hutton Limited offers a huge range of soil analyses including a leading forensic service with unparalleled experience of soils, waters and other ecological/environmental materials.

There is extensive expertise at the James Hutton Institute related to the impacts of renewable energy schemes on the environment as well as renewables and special planning, land quality and ecology. Services include qualitative social research, statistical analysis, landscape visualisation and biofuel crop genetics as well as advice on anaerobic digestion, biodiversity impacts, waste stream analysis, land use and biofermentation.



## FOOD & DRINK

From advice on sourcing different varieties of fruit and vegetables or analysing foodstuffs for a range of nutrition and health components such as polyphenols, anthocyanins and beta-glucans, to helping food and drink companies make the most of waste streams or minimise environmental impact from production, James Hutton Limited can provide invaluable support in a wide range of sustainability areas and can also assist in identifying the key environmental, social and economic impacts influencing the supply chain.

James Hutton Limited offer a vast range of specialist microscopy services providing a number of advantages to the food and drink industry such as identifying foreign bodies in foodstuffs and monitoring a range of contaminants, including heavy metals in a wide range of products.

With mounting industry pressure to provide full traceability for all products, James Hutton Limited also provides a range of analytical methods to establish products as the genuine article - or not – and can test for shelf-life, fats, volatile compounds, speciation, sugars, antioxidants and more.





## LIFE SCIENCES

James Hutton Limited is home to the AOCS award winning, Mylnefield Lipid Analysis, a FDA (GMP) and MHRA (GCP & GMP) approved laboratory - one of very few organisations in the world that has this double accreditation. The laboratory has extensive experience in analysing clinical samples for a diverse range of lipid classes including blood plasma, cell lines, phospholipids, uncommon fatty acids and sterol measurements. For skin lipids and skin health, several analyses are available to contribute to the development of safe and effective cosmetics, moisturisers and other skin care products. In addition the team has expertise in the extraction of lipids from complex matrices and stability testing. Other services from Mylnefield Lipid Analysis that may be useful to the health care sector include foreign body identification, nutritional analysis for all major vitamins and minerals and the analysis of nutraceuticals, especially Omega-3 fatty acids. Find out more at [www.lipid.co.uk](http://www.lipid.co.uk)

Analytical chemistry can also be used to support the health care sector including analysing pharmaceuticals and cosmetics for additives, contaminants, or producing a chemical fingerprint. Analysis can be bespoke, catering to specific customer requirements. Through James Hutton Limited's connection with BIOS, bioinformatic and statistical support for clinical trials can be provided.

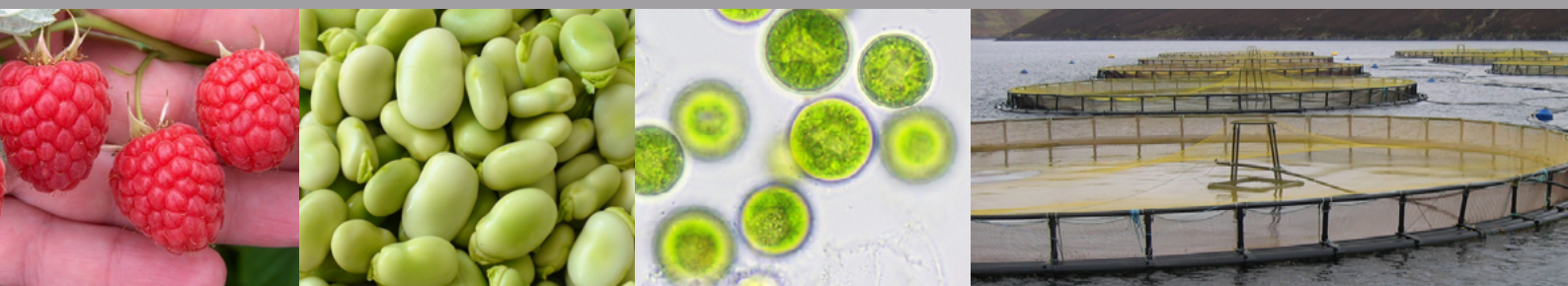


## CONTRACT RESEARCH

James Hutton Limited works with businesses, organisations and industry groups, collaborating where science and project management are required, to create solutions or perhaps to support the credibility of developments, provide proof of concept or contribute to feasibility studies.

Scientists at the James Hutton Institute have a wealth of research on hand that can be applied to real world situations and problems and their knowledge and skill sets are specialist, yet extremely varied. Many are highly experienced in contributing to UK, EU and globally funded projects and initiatives.

James Hutton Limited's dedicated Project Management Office applies a structured process to project management, ensuring that milestones and targets are met, along with the needs of project partners and funders. The Project Management team ensures efficiencies from people, budgets and time and provides monitoring and reporting throughout. Projects can run from as little as a few months to a few years. Some can emerge from others, involving different partners and scientists at different stages.



**James  
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Impact through Science

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