



Earlham Institute

Decoding Living Systems

MEDIA KIT

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Brand assets.

Click [here](#) to access our brand assets, including logos, typefaces and images.

Press contacts.



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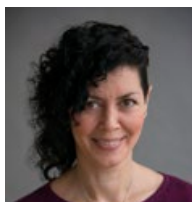
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Who and where.

The Earlham Institute (EI) is a cutting edge, contemporary research institute and registered charity, working in an area of rapid technological development and innovation.

Established in 2009, EI is strategically funded by the BBSRC to lead the development of a skill base in bioinformatics and a genomics technology platform for UK bioscience.

The Institute is located on the Norwich Research Park, together with its partners: the John Innes Centre, the Institute of Food Research, The Sainsbury Laboratory, the University of East Anglia and the Norfolk and Norwich University Hospital.

The Research Park has an excellent reputation for research in plant and microbial sciences, interdisciplinary environmental science and food, diet and health, to which EI contribute strengths in genomics and bioinformatics.

Close links exist between the NRP partners and new opportunities for collaboration in exciting new initiatives are under development. The NRP recently received £26M of government investment to facilitate innovation and further develop infrastructure to attract science and technology companies to the Park to enhance the vibrant environment and realise economic impact from research investment.



Our mission and values.

Decoding living systems is at the centre of our research activities and the impact of our work can be seen across diverse projects covering the breadth of life on earth that are helping us to improve human, animal and plant health, while aiding in researching healthier living systems.

Openness – promote the dissemination of data and distribution of software code by following data-sharing policies that are embedded in all the research programmes.

Technical Excellence – as a National Capability, EI is committed to test, evaluate and offer access to innovative technologies, staff training and protocol development.

Skilled personnel – pursue excellence at all level of operations this is reflected in the Strategic Human Resources programme.

Innovation – access to novel technologies and state-of-the-art hardware platforms provides the foundation for instigating novel solutions and innovative science.



Pursuing innovative approaches
to high-impact science in an
open, dynamic and collaborative
environment.

What we do.

Our research brings together expertise in biosciences, bioinformatics, high performance computing, mathematics and statistics to understand complex biological systems in relation to improving crop yield and human and animal health.

Our advanced genomics and computational platforms support our data-intensive research that embraces and confronts modern scientific challenges surrounding data scale and complexity. We develop and apply methods to process, store and analyse data and extract knowledge from computational analysis and integration of diverse datasets to facilitate bioscience research.

Our science.

The faculty collectively conduct three research activities: Fundamental research to increase our knowledge base in bioscience; applied research to improve plant, animal and human health; enabling research to empower both academia and industry with new technologies and scalable bioinformatics approaches. The three scientific programmes at EI are shown below.

Find out more about our projects at EI [here](#).



Digital Biology

Computing hardware
and tool development



Organisms and Ecosystems

Plants and animals



Engineering Biology

Technology development



Our technology.

El is a UK hub for innovative bioinformatics through research, analysis and interpretation of multiple, complex data sets. It hosts one of the largest computing hardware facilities dedicated to life science research in Europe. This has been boosted recently by an e-Infrastructure grant to expand the data storage capacity to a multi-petabyte unit, deploying a high performance cluster and large-memory server enabling the allocation of processes requiring several terabytes of computing memory.

Earlham Institute operates one of the largest Research Council funded high-throughput sequencing and data analysis platforms for life sciences (National Capability in Genomics). These facilities provide the UK bioscience community with access to cutting edge technologies and large data storage and computing resources.

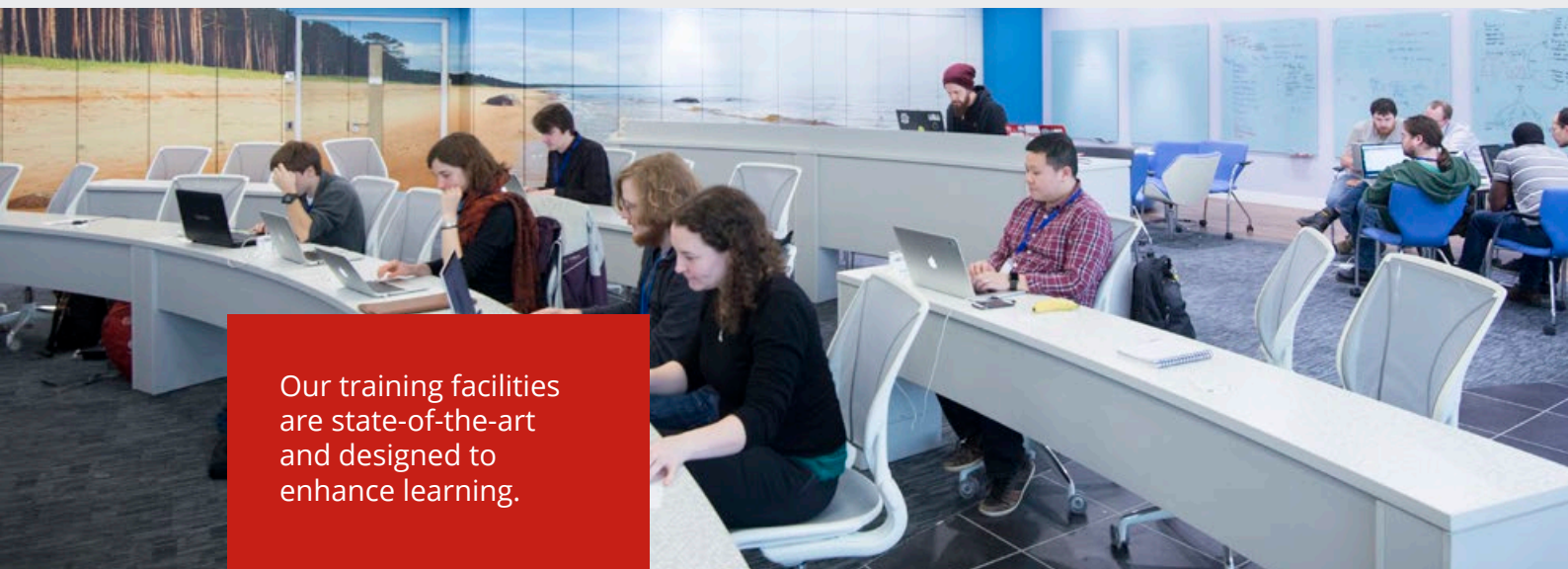
The Institute's knowledge and experience of the latest sequencing technologies and applications allows us to engage effectively with research groups in both academia and industry, providing advice on experimental planning and tailoring data generation to help answer key scientific questions.

Working with collaborators to advance analysis and interpretation of data through effective and efficient use of Earlham Institute's high-performance computing resources. This includes access to bespoke software tools and pipelines, user training, development and dissemination of computing best-practice.

Commercial arm and working with Industry.

Genome Enterprise Ltd (GEL) is EI's commercial subsidiary, through which we offer genomic and bioinformatics services on a trading basis and works with commercial providers on a partnership basis. The Earlham Institute also receives specific funding to enable knowledge exchange programmes which are supported across the Park's institute teams.

[Find out more about our Industry engagement here.](#)



Our training facilities are state-of-the-art and designed to enhance learning.

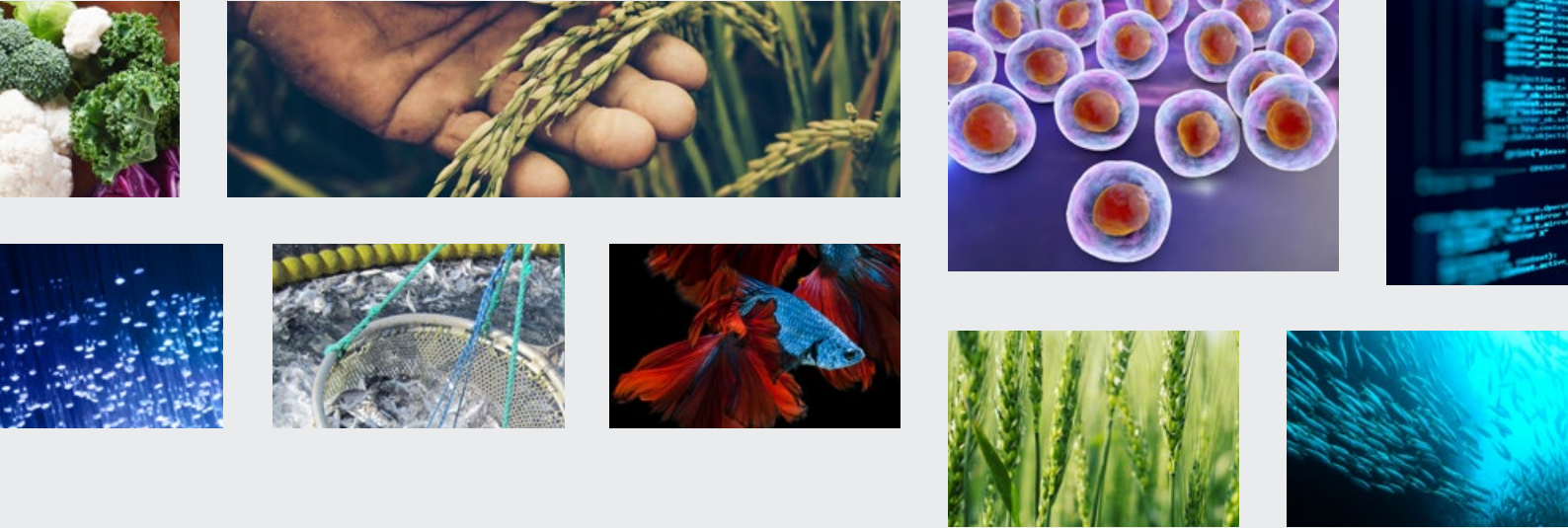
World-class training.

An important part of EI's mission is to provide high quality training to support the current and the next generation of life scientists and bioinformaticians.

Our training courses aim to equip researchers with the necessary skills for advance genomics through either practical short courses or tailored personal training for visiting workers and students.

A scenic landscape of a rice paddy field. In the foreground, rows of young green rice seedlings are planted in a flooded field. The middle ground shows more lush green fields and a small, rustic wooden hut with a thatched roof on the right. In the background, misty mountains rise under a soft, hazy sky. The overall atmosphere is peaceful and rural.

Our impact.

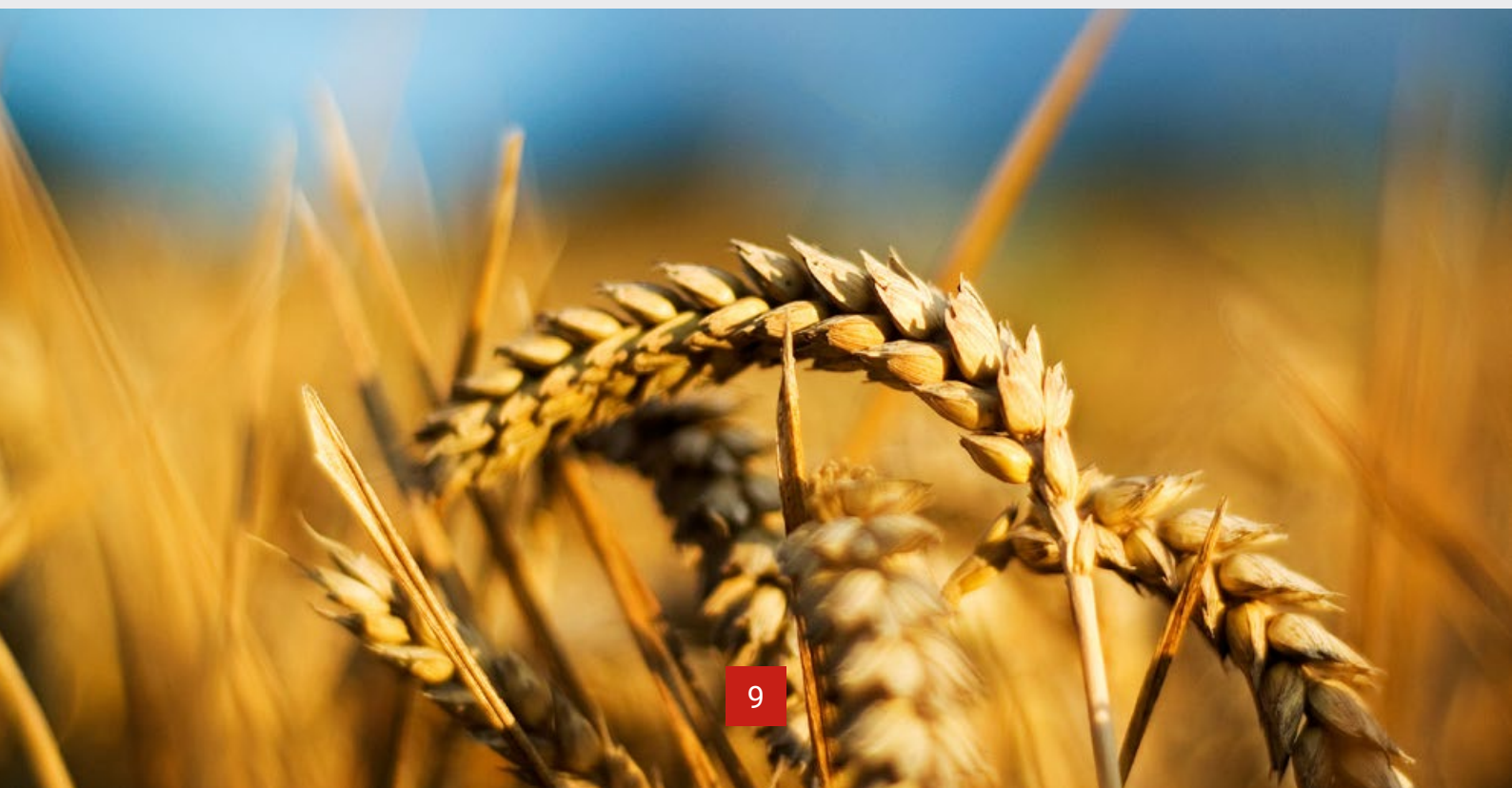


Making a difference.

Despite being a relatively young institute, our research related to global food security has far-reaching impacts for the international scientific community, farmers, breeders and industries. Our Platforms & Pipelines Group and Science Faculty have together sequenced and assembled the most accurate, complete and up-to-date version of the wheat genome, which has been distributed openly and is accessed by hundreds of users every month from Canada to Japan.

Research highlights include using mutant databases to study reverse genetics in wheat, the evolution of plant immunity, the identification of wheat genes that increase disease resistance and applying sequencing to the surveillance of plant pathogens.

Our varied research groups play a vital role in such scientific advances as exploring the functional genomics of aphid adaptation to plant defences; modelling resistance to late blight in potatoes; developing tools for the analysis of small RNA regulatory networks in plants; understanding the pathogenesis of swine flu in pigs; as well as collaborating with various institutes in order to establish novel infrastructure platforms for data and software dissemination.





Ash dieback.

Response to the ash dieback crisis by sequencing and annotating both disease-resistant and disease-susceptible ash trees and the infectious fungus, *Hymenoscyphus fraxineus*.



Yellow rust.

Greater understanding of crop pathogens including yellow (stripe) rust that poses a threat to UK wheat supplies, and potato blight, which was the major culprit in the 1845 Irish and 1846 Highland potato famines.



Salmonella.

Research into the microbiome of the human gut, an explosive new area of research which will benefit obesity and diabetes. The Earlham Institute will extend this area of research to understanding the microbiome at the soil-root interface.



Cichlid fish.

Research into fish focuses on the understanding evolution and phenotypic variation in the African cichlids of Lake Malawi. Knowledge gained will be applied to fish farmed for food.



Agriculture.

Greater genomic understanding of a range of agricultural crops including wheat, barley, strawberry, potatoes, oilseed, rice, sugar beet, red clover and *Miscanthus* (a grass under consideration for biofuel production).



Domestication.

Research into mammals, including understanding the genetic profile of dogs, so that, for example, the best puppies can be selected as guide dogs to improve the training success rate. Ferrets are being studied so that the genomics of domestication can be better understood.



Conservation.

Response to the near-extinction of the Mauritius pink pigeon, which reduced to just six wild birds. The population has now expanded and the genetic diversity of the restricted population is being analysed. The introduction of zoo birds to increase the genetic pool is now being considered.

Our boilerplate.

The Earlham Institute (EI) is a world-leading research institute focusing on the development of genomics and computational biology. EI is based within the Norwich Research Park and is one of eight institutes that receive strategic funding from Biotechnology and Biological Science Research Council (BBSRC) - £6.45M in 2015/2016 - as well as support from other research funders. EI operates a National Capability to promote the application of genomics and bioinformatics to advance bioscience research and innovation.

EI offers a state of the art DNA sequencing facility, unique by its operation of multiple complementary technologies for data generation. The Institute is a UK hub for innovative bioinformatics through research, analysis and interpretation of multiple, complex data sets. It hosts one of the largest computing hardware facilities dedicated to life science research in Europe. It is also actively involved in developing novel platforms to provide access to computational tools and processing capacity for multiple academic and industrial users and promoting applications of computational Bioscience. Additionally, the Institute offers a training programme through courses and workshops, and an outreach programme targeting key stakeholders, and wider public audiences through dialogue and science communication activities.





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