

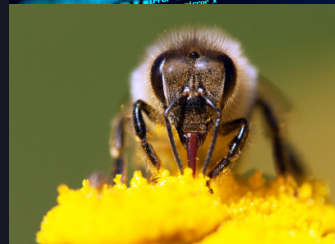
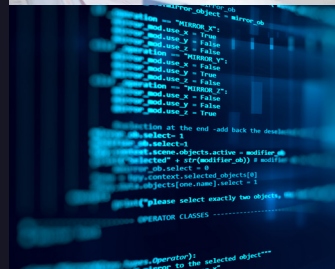
Inside



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**There'll be a prize for the best selfie or photo taken of the day!**  
Please do share your experience of our Open Day!  
Tag in @EarlhamInst and #InsideEI2019



## About Earlham Institute

Welcome to the Earlham Institute, where we're decoding living systems. Hopefully by the end of your visit, you'll know more about what we mean by this after exploring our range of cutting edge research projects.

From genome sequencing to bioinformatics, supercomputing, machine learning, synthetic biology and robotics, we cover a range of exciting topics that combine an open approach to science with the use of abundant biological data to drive research that will help us to answer some important questions:



**Director**  
Prof Neil Hall



How do we feed an increasing population sustainably in a changing climate?



How do we ensure the survival of important ecosystems?



How can we harness plants to produce better crops and novel products?



How can we develop the tools and resources to allow others to follow in our footsteps around the world?



How are we training and developing the bioinformaticians of the future?

## Ask our scientists!

Remember to ask our scientists about their work in:

- **Genomics**
- **Bioinformatics**
- **Machine Learning**
- **Synthetic Biology**

**You might want to ask more specific questions to people based on the colour of t-shirt they are wearing.**

Our other staff do a variety of interesting and important roles, from Operations to Business Development, Communications and Training and Education - ask them all about alternative careers in science.

They are wearing



**Ask** our bioinformatics experts from Organisms and Ecosystems about their research.

They are wearing



**Ask** our DNA sequencing experts from Genomics Pipelines what it takes to read a genome.

They are wearing



**Ask** our Engineering Synthetic Biology experts about how we can engineer novel, more sustainable products using natural systems.

They are wearing



**Ask** our bioinformatics experts from Digital Biology about computing infrastructures and software for life scientists.

They are wearing



In the atrium on the ground floor, you will see the Tree of Life gallery, which shows the incredible range of life that we are helping to better understand here at EI through our genomics and bioinformatics research. Our work on bacteria helps us to understand what makes a healthy gut. Our work on trichomonads helps us understand infections in songbirds.

Our varied projects among plants help us to understand complex genomes important for food security, while a great diversity of research into animals helps us understand not only evolution of interesting characteristics, but also how we might save some iconic species from the brink of extinction.



**Don't forget your selfie!**







On the first floor, you are invited to a whistlestop tour through the sights, smells and sounds of Colombia as you discover all about our important work as part of the GROW project, which aims to promote sustainable development in Colombia and a lasting peace through better understanding the country's rich biodiversity.

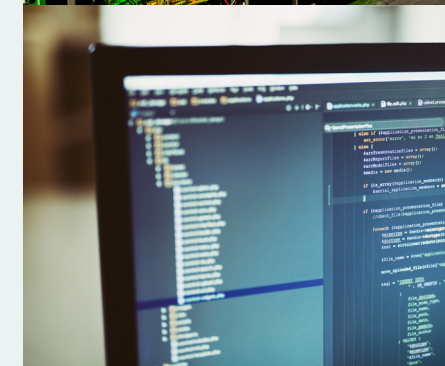
Our friends and colleagues from the UEA will be joining us, who will be able to tell you about their exciting work in socioeconomics, while our staff will fill you in on the work we're doing in understanding and conserving Colombia's unique flora and fauna, as well as helping to establish a supercomputing infrastructure in the country to enable and drive big data-driven research.

UK Research  
and Innovation



Up in the cloud, on the second floor, you'll get an insight into how we apply computational tools that help us to read and understand the code of life and decode living systems. We write and make available lots of software which we share openly and freely with scientists around the world, which is helping to drive global bioinformatics research.

You'll also get the chance to explore synthetic biology through a smell-based experience, get to grips with DNA sequencing and assembly, and witness the live DNA sequencing of our PhD student Ned Peel.



## Talks programme (morning session)

**09:30**  
Arrival & Registration - Schools session (09:30 - 12:45)

Time	Jane Rogers Seminar Room Ground Floor	Darwin Suite 2nd Floor
09:50	<b>Session 1a: Evolution - why do we sequence genomes?</b>	<b>Session 1b: Health and disease</b>
09:55	Darwin Tree of Life Prof. Neil Hall, Director	Swine flu Angela Man, Di Palma Group
10:05	Single cells to whole tissues Laura Mincarelli, Macaulay Group	Why is yoghurt good for you? Agatha Treveil, Korcsmáros Group
10:15	A brief history of DNA: from tiny viruses to all of life on Earth Karim Gharbi, Genomics Pipelines	How does Salmonella control us? Isabelle Hautefort, Korcsmáros Group
10:35	<b>Session 2a: Diversity of life - why do we look at adaptation through evolution?</b>	<b>Session 2b: Artificial Intelligence and supercomputing</b>
10:40	Non-human genomes, why bother? Wilfried Haerty, Haerty Group	Down the tubes Rob Davey, Davey Group
10:50	Diving in to cichlid diversity Tarang Mehta, Di Palma Group	How AI will help us to explore our microbiome Matthew Madgwick, Korcsmáros Group
11:00	Rodents are awesome David Thybert, Thybert Group	Lettuce have it! Alan Bauer, Zhou Group

Time	Jane Rogers Seminar Room Ground Floor
11:20	<b>Session 3: Saving species</b>
11:25	What can we learn from a high koala-ty genome? Will Nash, Haerty Group
11:35	The pink pigeon's peril Camilla Ryan, Clavijo Group
11:45	How can sequencing genomes help endangered species? Graham Etherington, Di Palma Group
12:15	<b>Session 4: Environmental interactions</b>
12:20	Antarctica field trip - Nanopore sequencing for coccolithopores and climate change Emma Langan, Leggett Group
12:30	Trees on the brink: Evolution of the deadly ash dieback disease Mark McMullan, Neil Hall Group
12:40	Have you got the time? (Circadian clock) Hannah Rees, Anthony Hall Group

## Ask our Students



There will also be a chance for pupils to ask our EI Students any questions they may have regarding careers in science and student life. This will take place during the morning session from **11:00-12:00 in Meeting Rooms 1, 2 and 3 on the first floor.**

**Don't forget your selfie!**



Talks programme (afternoon session)

13:30  
Arrival & Registration - General public (13:30 - 17:00)

Time	Jane Rogers Seminar Room Ground Floor	Darwin Suite 2nd Floor
13:55	<b>Session 5a: Evolution - why do we sequence genomes?</b>	<b>Session 5b: Health and disease</b>
14:00	Darwin Tree of Life Prof. Neil Hall, Director	Swine flu Angela Man, Di Palma Group
14:15	Single cells to whole tissues Laura Mincarelli, Macaulay Group	Why is yoghurt good for you? Agatha Treveil, Korcsmáros Group
14:25	A brief history of DNA: from tiny viruses to all of life on Earth Karim Gharbi, Genomics Pipelines	How does Salmonella control us? Isabelle Hautefort, Korcsmáros Group
14:45	<b>Session 6a: Enviromental interactions</b>	<b>Session 6b: Artificial Intelligence and supercomputing</b>
14:50	Antarctica field trip - Nanopore sequencing for coccolithopores and climate change Emma Langan, Leggett Group	Down the tubes Rob Davey, Davey Group
15:00	Trees on the brink: Evolution of the deadly ash dieback disease Mark McMullan, Neil Hall Group	How AI will help us to explore our microbiome Matthew Madgwick, Korcsmáros Group
15:10	Have you got the time? (Circadian clock) Hannah Rees, Anthony Hall Group	Lettuce have it! Alan Bauer, Zhou Group

Time	Jane Rogers Seminar Room Ground Floor
15:45	<b>Session 7: Diversity of life - why do we look at adaptation through evolution?</b>
15:50	Non-human genomes, why bother? Wilfried Haerty, Haerty Group
16:00	Diving in to cichlid diversity Tarang Mehta, Di Palma Group
16:10	Rodents are awesome David Thybert, Thybert Group
16:30	<b>Session 8: Saving species</b>
16:35	What can we learn from a high koala-ty genome? Will Nash, Haerty Group
16:45	The pink pigeon's peril Camilla Ryan, Clavijo Group
16:55	How can sequencing genomes help endangered species? Graham Etherington, Di Palma Group

Lab and Supercomputing tours

Sign up for our laboratory and data centre tours in the atrium and discover how we sequence genomes and analyse data with our high performance computing.





Speakers



Neil Hall, Director



Angela Man,  
Di Palma Group



Laura Mincarelli  
Macaulay Group



Agatha Treveil,  
Korcsmáros Group



Karim Gharbi,  
Head of Genomics  
Pipelines



Isabelle Hautefort,  
Korcsmáros Group



Emma Langan,  
Leggett Group



Rob Davey,  
Davey Group



Mark McMullan,  
Neil Hall Group



Matthew Madgwick,  
Korcsmáros Group



Hannah Rees,  
Anthony Hall Group



Alan Bauer,  
Zhou Group

Speakers



Wilfried Haerty,  
Haerty Group



Tarang Mehta,  
Di Palma Group



David Thybert,  
Thybert Group




Will Nash,  
Haerty Group






Camilla Ryan,  
Clavijo Group



Graham Etherington,  
Di Palma Group



Don't forget  
your selfie!



## Norwich Research Park collaborators

We are proud to work on the Norwich Research Park along with important collaborators at JIC, QIB, NNUH and UEA.



## Working with national and international collaborators

We work with a number of academic and private organisations across the agriculture, food and health sectors, as well as charities and other organisations involved in conservation and protection of biodiversity. Our international collaborations span research centres and industrial partners throughout China, Africa, Australia, Colombia, the USA and Vietnam.

## Strategic partners



Earlham Institute was established by the Biotechnology and Biological Sciences Research Council (BBSRC) in partnership with the East of England Development Agency, Norfolk County Council, South Norfolk Council, Norwich City Council and the Greater Norwich Development Partnership.

## UK Research and Innovation

UK Research and Innovation is a new body which works in partnership with universities, research organisations, businesses, charities, and government to create the best possible environment for research and innovation to flourish. We aim to maximise the contribution of each of our component parts, working individually and collectively. We work with our many partners to benefit everyone through knowledge, talent and ideas.

## Housekeeping

We welcome you to EI, to get the most out of your visit today we would like to draw your attention to a few important points to ensure your health and safety while on site:



### Toilets

Toilets are located at each end of the building on the ground floor accessed through the atriums and on the first and second floors they are located at the west/field end of the building.



### Lab Access

Guided tours of the labs will be provided throughout the day. Please do not access the labs at any other time, nor without a member of staff. We kindly ask you not to touch the equipment while in the labs and wear the lab coats provided.



### Refreshments

Refreshments will be available throughout the day in the Atrium at the east end of the building near the point where the tours start.



### Restricted Access

There will be areas of the building not available to tour, these are clearly marked '**NO ENTRY**', so please do not pass by the barriers/signs.



### Fire Alarm

There is no fire alarm test planned for the day. If you hear the fire alarm, please make your way to the nearest fire exit and congregate at the Fire Assembly Point near the pond/in front of the Centrum building.



### Photograph/Video Disclaimer

EI have arranged for a photographer and a videographer to take pictures throughout the day. If you would prefer not to be photographed or filmed, please let a member of staff know.



### Assistance

There will be a number of tour guides available throughout the day. If you would like any assistance, please do not hesitate to ask.

**We hope you enjoy your day at EI!**





Decoding Living Systems

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