Rare Disease Day

Celebrating Royal Holloway’s annual Rare Disease Day event

Monday 27 February 2023
Thank you for joining us for our annual celebration of Rare Disease Day.

This special day aims to draw attention to rare diseases and the millions of people who are affected by them, highlighting the need for more research and funding to help people affected and their families. The message for 2023 is ‘Share your colours’, in reference to the paint stripes often used to show support for those affected.

In Europe, a rare disease is defined as one with an incidence of less than 1 in 2,000 people. While each of them is rare, there are more than 9,600 rare diseases, which together affect 3.5 million people in the UK, taking 20% of all health care costs. Rare diseases are a serious public health concern and an international priority, but unfortunately often very little is known about them by health professionals and the public alike.

People who are affected by a rare disease will mostly receive symptomatic and palliative care because there are very few curative treatments. Often, relatives will have to stop working and become full-time carers.

Rare Disease Day encourages us to continue finding ways to work together, and to strive towards more equitable access to diagnosis, treatment, care and social opportunity.

Rare disease research at Royal Holloway

Royal Holloway is a leading institution in the development of novel therapies for rare diseases, including Spinal muscular atrophy, Ataxia telangiectasia, Duchenne muscular dystrophy and Motor neuron disease. Our scientists are at the forefront in developing innovative techniques in gene-based therapy.

Today’s Organiser

Prof Rafael J. Yáñez-Muñoz, Professor of Advanced Therapy and Director of the Centre of Gene and Cell Therapy, is the President of The British Society for Gene and Cell Therapy.

Department of Biological Sciences

The department places a strong emphasis on practical teaching, with state-of-the-art equipment and an exceptionally supportive environment for all students. It achieved 81% overall satisfaction from its students in the National Student Survey in 2022.

The department of Biological Sciences at Royal Holloway has earned an international reputation for the world-class quality of our research which is at the forefront of scientific discovery.

We offer an exciting range of undergraduate degree programmes and research opportunities ranging from gene therapy, tropical diseases, GM technology, vaccine technology and neuroscience, to animal behaviour, conservation, ecology and biodiversity.
## Programme

<table>
<thead>
<tr>
<th>Time</th>
<th>Group A</th>
<th>Group B</th>
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<tbody>
<tr>
<td>9.30-10am</td>
<td>Arrival and registration</td>
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<tr>
<td>10-11am</td>
<td>Lectures</td>
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<td></td>
<td>Prof Rafael J. Yáñez-Muñoz</td>
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<td>Dr Juliette Harris</td>
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<td></td>
<td>Dr Alberto Malerba</td>
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<td></td>
<td>Location: Moore Auditorium</td>
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<tr>
<td>11am-12pm</td>
<td>Lab activity</td>
<td>Exhibition zone</td>
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<td></td>
<td>Location: Bourne 203</td>
<td>Location: Windsor foyers</td>
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<tr>
<td>12-1pm</td>
<td>Exhibition zone</td>
<td>Lab activity</td>
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<tr>
<td></td>
<td>Location: Windsor foyers</td>
<td>Location: Bourne 203</td>
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<tr>
<td>1-1.45pm</td>
<td>Lunch (not provided)</td>
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<tr>
<td>1.45-2.30pm</td>
<td>Disease Detective</td>
<td>Speed dating</td>
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<td>Location: Bourne 203</td>
<td>Location: Bourne 203</td>
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<tr>
<td>2.30-3.15pm</td>
<td>Speed dating</td>
<td>Disease Detective</td>
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<td>Location: Bourne 203</td>
<td>Location: Bourne 203</td>
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<tr>
<td>3.15-3.30pm</td>
<td>Evaluation and departure</td>
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### Our Speakers

- **Introduction to Rare Disease Day**, Prof Rafael J. Yáñez-Muñoz (Professor of Advanced Therapy at Royal Holloway University of London)
- **Genetic counselling for Rare Diseases**, Dr Juliette Harris (Specialist Genetic Counsellor, Ehlers-Danlos Syndrome national diagnostic service)
- **Gene therapy for Duchenne muscular dystrophy**, Dr Alberto Malerba (Lecturer in Gene Therapy at Royal Holloway University of London)
Spotlight on Science

Lesson starters

Why should we care about rare diseases?
Prof Rafael Yáñez

Learning objectives:
By the end of this activity day you should be able to:

• Define what a rare disease is, and name some examples of genetic diseases
• Describe how genomic mutations can cause rare diseases
• Explain why rare diseases are important
• Understand why gene and cell therapies are considered so promising
• Consider some ethical issues of relevance to rare diseases

Points to discuss:

• Are all rare diseases genetic, and are all genetic diseases rare?
• How do genetic diseases arise and why are there so many?
• What organs and tissues can be affected by rare diseases?
• Why do rare diseases have disproportionate health and social costs?
• How can rare diseases be treated? How can engineered viruses be used as medicines?
• Why don’t we screen newborns for all genetic diseases?
• Why are the marketed treatments so expensive?

For other Spotlight on Science A level topics, visit royalholloway.ac.uk/studying-here/schools-and-colleges/

Our 2023 exhibitors

We warmly welcome the following partners to our Rare Disease Day

• Ashford and St Peter’s Hospital
• Beacon
• British Society for Gene and Cell Therapy
• Cambridge Rare Disease Network
• Genetic Alliance UK
• Haemochromatosis Society
• Roald Dahl’s Marvellous Children’s Charity
• Royal Holloway History
• The Sickle Cell Society
• Unique

CGCT
Centre of Gene and Cell Therapy
royalholloway.ac.uk/cgct

Department of Biological Sciences:
royalholloway.ac.uk/biologicalsciences

Advanced Gene and Cell Therapy Laboratory (AGCTlab):
agctlab.org

Rare Disease Day at Royal Holloway:
royalholloway.ac.uk/rarediseaseday