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VOL. 2 · SEPTEMBER 2025

SPPIRIT NEWSLETTER

Official Newsletter of the SPPIRIT Network

MAIN FEATURE

SPPIRIT'S ANNUAL ECR SYMPOSIUM RETURNS!

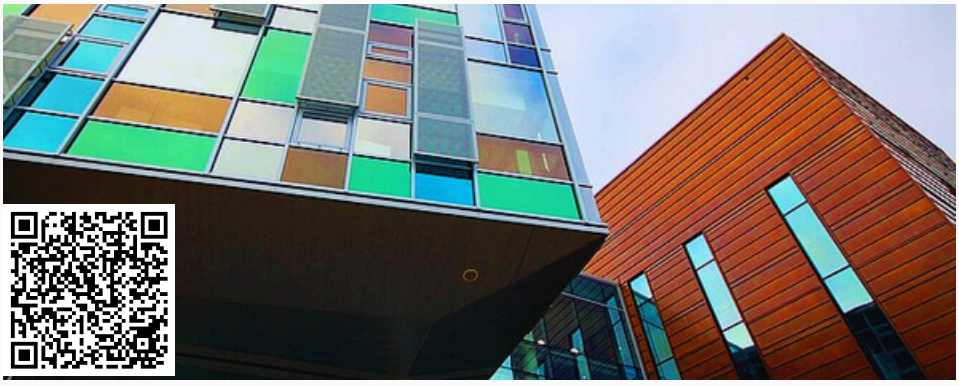
SPPIRIT's annual Early Career Researcher (ECR) symposium is back to celebrate Scottish parasitology research. Following a successful event at UWS last year, this year's symposium will be hosted at the Roslin Institute, University of Edinburgh, on Friday 31 October.

The programme will include poster presentations, talks from early career researchers, and two keynote lectures from recent fellowship awardees. A panel discussion and dedicated networking opportunities will also provide the chance to connect with fellow Scottish parasitologists and expand your research network.

Registration is now open – follow the link or scan the QR code below. Abstract submissions close on 30 September.

Please note: this in-person event is open exclusively to staff and students based in Scotland. The symposium will begin at 10:00 AM, so please allow sufficient time for travel – the Roslin Institute is located around 50 minutes by bus from Edinburgh Waverley.

Link: https://tinyurl.com/3yzjnm5h



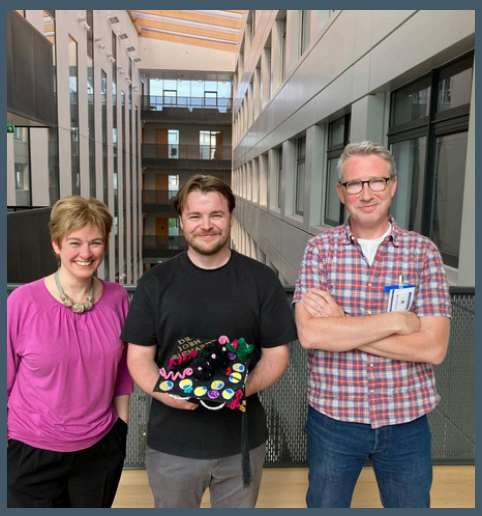
Also in this issue:

Contributions: Mukul Rawat, Frank Venter Megan Sloan, Marketa Novotna and Abhinay Ramaprasad

Ker Memorial Prize 2025

THE EVOLUTIONARY ECOLOGY OF VECTOR-PARASITE INTERACTIONS

CATHERINE OKE, PHD
UNIVERSITY OF EDINBURGH



DR. JOSH RICHARD (CENTRE)
DR. MAIRI MACLEAN (LEFT)
PROF. ANDREW MACDONALD (RIGHT)

NEWS FROM OUR NETWORK

CATHERINE OKE WINS 2025 KER MEMORIAL PRIZE FOR MALARIA RESEARCH

Credit: Andy Fotheringham

Catherine Oke from Sarah Reece's lab (University of Edinburgh) received the 2025 Ker Memorial Prize for her outstanding PhD research on malaria parasite development and transmission.

Awarded annually for the best PhD thesis in infectious diseases, the prize honours the legacy of Drs Claude Buchanan Ker and Frank Leighton Ker, two influential physicians in the field.

Catherine's interdisciplinary research reveals that malaria parasites show considerable variation in their development within the mosquito, and can adjust their growth in ways that may enhance their chances of successful transmission.

Her work also shows that environmental change can affect mosquitoes and parasites in opposing ways; notably, while parasites are less productive in mosquitoes fed nutrient-poor diets, these mosquitoes were more likely to bite in the evening at a time when people are less protected by bed nets.

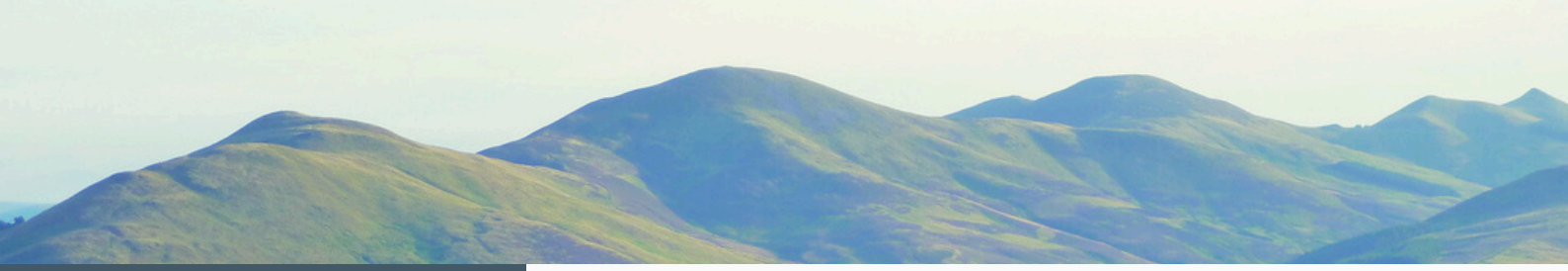
Catherine is now working on a NERC Pushing the Fronteirs grant as research co-lead. The grant is looking at how daily rhythms impact malaria parasite transmission and evolution

JOSH RICHARDS DEFENDS HIS PHD

We're thrilled to congratulate our very own committee member, Dr. Josh Richards, on successfully defending his PhD titled "Helminth-Derived Immunomodulators as Potential Therapies Against Adipose Tissue Inflammation in Obesity", under the supervision of Dr. Henry McSorley at the University of Dundee.

His viva took place on 23rd May 2025, examined by Dr. Mairi MacLean and Prof. Andrew MacDonald.

Josh is now a postdoctoral researcher at the University of Edinburgh, working with Prof. Amy Pedersen and Dr. Iris Mair on a BBSRC-funded project investigating how diet and the microbiome influence immune responses to helminth infections in wild house mouse populations on the Isle of May. This exciting work is part of a collaborative effort with Prof. Kathryn Else and her team at the University of Manchester.



SPPIRIT WELCOMES NEW COMMITTEE MEMBERS

Please join SPPIRIT in welcoming our two newest committee members, Professor Matt Berriman, Professor Marcus Lee and Dr. Joanna Young.

PROFESSOR MATT BERRIMAN

Professor Matt Berriman leads a research group at the University of Glasgow, where his team uses comparative genomics to investigate the vast array of uncharacterised genes. His work focuses particularly on helminths, such as *Schistosomes*, tapeworms, whipworms, threadworms, and hookworms, which are responsible for some of the world's most neglected diseases and collectively affect over a billion people.

PROFESSOR MARCUS LEE

Professor Marcus Lee leads a research group at the University of Dundee, where his team investigates the molecular basis of drug resistance in *Plasmodium falciparum*, the parasite responsible for malaria. They also develop molecular genetic tools to study gene function and create innovative approaches to support drug development.

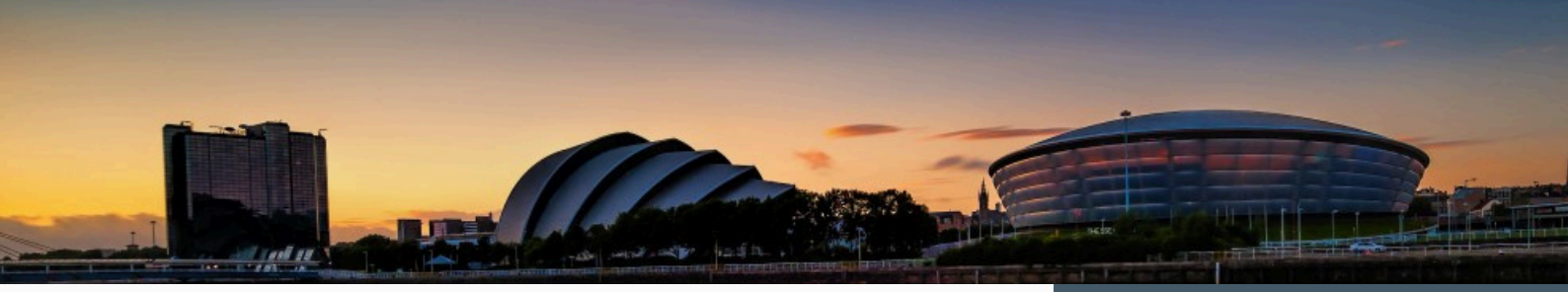
DR. JOANNA YOUNG

Dr. Joanna Young is an MRC Career Development Fellow who established her lab at the University of Edinburgh in September 2021. With a strong interest in secreted proteins and post-translational modifications, she moved into parasitology during her postdoctoral work in the Treeck lab (NIMR, later the Francis Crick Institute, London), focusing on *Toxoplasma gondii*. There she developed CRISPR screening methods to identify parasite proteins essential for infection and became fascinated by the latent, cyst-forming stages of the parasite. Her fellowship now focuses on uncovering how secreted proteins drive cyst formation and persistence in the central nervous system.

GLASGOW–EDINBURGH MALARIA AWAY DAY

MALARIA AWAY DAY

The Glasgow–Edinburgh Malaria Away Day 2025 took place on 20th August at the Mazumdar-Shaw Advanced Research Centre, University of Glasgow, bringing together malaria labs from Glasgow, Edinburgh, and Dundee. Eighty-three participants joined a day of talks, posters, and networking, covering topics from transmission biology to novel drug targets. With lively discussions, sponsor exhibits, and 14 posters, the event showcased the breadth of expertise in our community. Reuniting since the 2019 meeting, organisers hope to make this a regular tradition!



SPOTLIGHT ON DR. SHIKHA

ADVANCING MITOCHONDRIAL RESEARCH IN PARASITES

Dr. Shikha, formerly a postdoctoral researcher at the Glasgow Centre for Parasitology, has recently become a Research Fellow at the University of Glasgow.

She joined Lilach Sheiner's lab with a Swiss National Science Foundation Postdoctoral Mobility Fellowship and is an active SPPIRIT committee member. Her research on *Toxoplasma gondii* mitochondrial biology led to the discovery of the most fragmented mitochondrial ribosome known, revealing unique assembly mechanisms, including novel RNA processing and the roles of AP2 transcription factors and RAP proteins.

Recently, Shikha was awarded the SULSA Early Career Researcher Development Prize, which will support her transition to independence by funding visits to universities across Scotland and helping her build essential collaborations.

We are also proud to share that SPPIRIT committee member Megan was among the finalists for this competitive award!

📽 Watch Shikha talk about her research:
https://www.youtube.com/watch?v=msReEetPSGM&t=2s
🔗 Learn more: https://sulsa.ac.uk/postdoctoral-prize/

Shikha

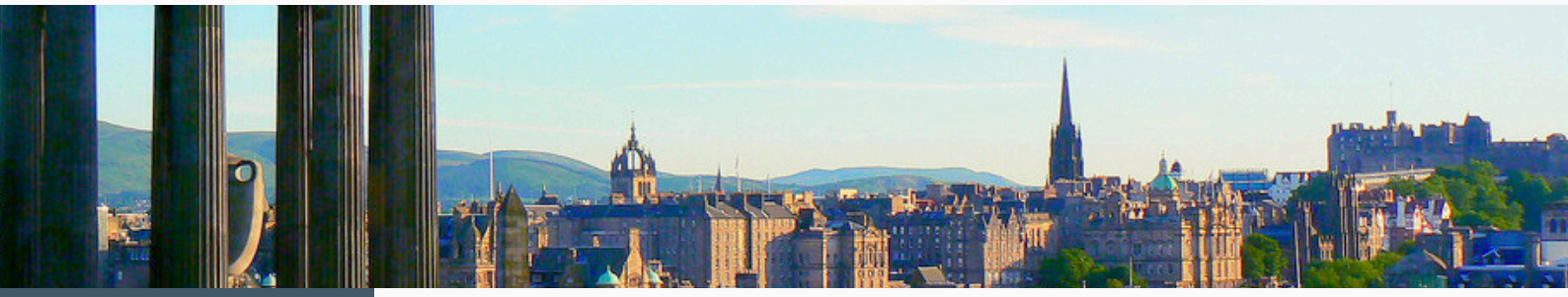
SULSA EARLY CAREER RESEARCHER DEVELOPMENT PRIZE WINNER

INAUGURAL PARENTS OF PARASITES (POPS) COFFEE

At the end of June, we held our first 'virtual coffee' for our academic parents which was attended by researchers across institutions. It was lovely to take a short break from science to connect with other parents - and a wave to baby or two! We discussed about some of the existing support available across our host institutes and got lots of useful feedback on how we can remove barriers to taking part in our upcoming symposium. There will be another PoPs virtual coffee in early September, so keep an eye out for communications closer to the time. If you'd like to be added into our PoPs WhatsApp group, please get in touch via the spiritnetwork@gmail.com.

SPPIRIT FORUM

The SPPIRIT Forum is a recurring series of meetings fostering scientific discussion, primarily through journal clubs. Beyond paper reviews, it offers opportunities for feedback and peer support for those preparing for vivas, funding interviews, or research discussions.
Our first virtual session on 22nd August featured a discussion of ultrastructure-expansion microscopy of mosquito tissue in malaria research (Liffner et al., 2024) with first author Ben Liffner, who shared insights into expansion microscopy and *Plasmodium* biology. The next Forum meeting in November will focus on postdoctoral fellowship schemes, with sessions continuing every two months.
Stay tuned for updates — more details will be shared soon via our social media channels!



RESEARCH FROM OUR NETWORK

RECENT PARASITOLOGY PAPERS

Tulloch el al. (2025) Science translational medicine. Antitrypanosomal quinazolines targeting lysyl- tRNA synthetase show partial efficacy in a mouse model of acute Chagas disease.

Wiedemar et al. (2025) ACS Infectious Diseases.The Thienopyrimidinone Gamhépathiopine Targets the Q_O Site of *Plasmodium falciparum* Cytochrome b.

Oke et al. (2025) BioRxiv. Biting time of day in malaria mosquitoes is modulated by nutritional status.

Hanna et al. (2025) BioRxiv. Global translational and metabolic remodelling during iron deprivation in *Toxoplasma gondii*.

Rawat et al. (2025) BioRxiv. Mechanistic Insights into Dual-Active Liver and Blood-Stage Antiplasmodials.

ANDREW MACLEAN

MacLean et al. (2025) Nature Structural & Molecular Biology. Structure, assembly and inhibition of the Toxoplasma gondii respiratory chain supercomplex

Toxoplasma mitochondrial biology differs greatly from that of its mammalian hosts, particularly in the respiratory complexes essential for respiration. By combining structural biology and molecular parasitology, we reveal key host–parasite differences in these complexes and uncover the molecular mechanism of inhibitor binding, providing insights for better anti-parasitic drug design.

MARKETA NOVOTNA

Novotná et al. (2025) Nature communications. Precision-edited histone tails disrupt polycistronic gene expression controls in trypanosomes

We used CRISPR/Cas9 in *T. brucei* to replace all native copies (>40) of the histone H4 gene with a single ectopic copy, enabling genetic editing of this multicopy gene for the first time. Through saturation mutagenesis, sequencing, proteomics, and transcriptomics, we found that H4K4 acetylation-mimic mutants downregulate genes near transcription start sites, revealing a novel role for this modification in gene regulation.

EVENT FOR YOUR CALENDAR

GLOBAL VIRTUAL SYMPOSIUM ON TRYPANOSOMIASIS
SEPTEMBER 24, 2025 | ONLINE
HTTPS://TRYPANOSOMA.IRCCONFERENCES.NET

EMBO WORKSHOP
HOST-PARASITE RELATIONSHIP: FROM MECHANISMS TO CONTROL STRATEGIES
05 – 08 OCTOBER 2025 | EMBIEZ, FRANCE

INDAC CONFERENCE- SULSA CONFERENCE AND CAREERS FAIR
UNITING LIFE SCIENCES INDUSTRY AND ACADEMIA TO EXPLORE COLLABORATION, COMMERCIALISATION, AND CAREER OPPORTUNITIES
28- 29 OCTOBER 2025 | TECHNOLOGY AND INNOVATION CENTRE, GLASGOW

ICOPA 2026, 16TH INTERNATIONAL CONGRESS OF PARASITOLOGY
AUGUST 16–21, 2026
MONTRÉAL, CANADA

POSITIONS

PARASITOLOGY VACANCIES

Research Technician to join the Vector Immunogenomics and Infection Laboratory (VigiLab), part of the Department of Life Sciences at Imperial College London.
Dealine: 7 `September 2025

Postdoctoral Fellow at Sateriale Lab fixed term (4 years) position at Francis Crick Institute
Dealine: 7 `September 2025

Virus Surveillance Unit (VSU) Scientist
The Moredun Research Institute
Deadline : 5 September 2025

Postdoctoral Research Associate in apicomplexan cytoskeleton biology at The Lau Lab, University of Oxford
Dealine: 8 September 2025

Postdoc in molecular and biochemical parasitology (*Toxoplasma gondii*) at Sébastien Besteiro lab, Montpellier University
Dealine: 19 September 2025

Want to feature your new paper?
Find us on X and Bluesky
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