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# SPPIRIT NEWSLETTER

Official Newsletter of the SPPIRIT Network

Toxoplasma. Credit: Kseniia Bondarenko, Univ. Edinburgh

## MAIN FEATURE

### 3RD ECR SYMPOSIUM

The 2024 SPPIRIT ECR Symposium, hosted on October 25th at the University of the West of Scotland, brought together over 100 attendees, primarily early-career researchers (ECRs). The program offered a mix of keynote talks, research presentations, and a panel discussion.

Beric Gilbert delivered a fascinating keynote on the potential of ectoparasites as bioindicators of ecosystem health, while Abhinay Ramaprasad introduced SHIFTiKO, a groundbreaking technique for genetic knockouts in *Plasmodium falciparum*. The career panel provided valuable insights and practical advice for researchers considering non-academic career paths.

The event also recognized exceptional ECR contributions through awards. Winners included Petra Schneider and Dana Aghabi, who were celebrated for their innovative research and impactful work.



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Contributions: Frank Venter, Rhoslyn Howroyd, Laurine Brouck, Olivia Fleming, Peyton Goddard, Melanie Ridgewell, Amy Buck, Juan Quintana, Emma Briggs, Enock Mararo, Kseniia Bondarenko.



“I am delighted to push our mechanistic studies of RNA transmission in nematodes towards real world use in parasite control and there is nothing more rewarding than working as a team with scientists who all bring something different to the table.”

AMY BUCK  
EDINBURGH

Trends in  
**Parasitology**

A Cell Press  
journal

## NEWS FROM OUR NETWORK

### NEW BRSRC GRANT FOR EDINBURGH RESEARCHERS

Amy Buck, Amy Pedersen, and Cei Abreu-Goodger from the University of Edinburgh and Simon Babayan from the University of Glasgow were awarded a BBSRC Research Grant to advance their research on vaccine development for gastrointestinal nematodes. This also involves project partners Al Nisbet (Moredun) and Zhiyong Lei (UMC Utrecht).

Combining their expertise in RNA communication, vaccine development, mRNA technology and nematode-host immune interactions, they will aim to develop a mRNA vaccine against gastrointestinal nematodes and determine its efficacy in real-world conditions. Gastrointestinal nematodes are a significant health risk in both humans and livestock, so this research will fill a vital gap in our current disease prevention methods.



### TRENDS IN PARASITOLOGY FEATURES SPPIRIT

Since its inception in 2021, the SPPIRIT network has grown to include 230 parasitologists across multiple Scottish institutes. To showcase the network's impact and achievements, six members of the organising committee collaborated on a feature article that was recently accepted by Trends in Parasitology. The article highlights SPPIRIT's key activities, including workshops and symposia, its mission and future goals, and major milestones. Melanie Ridgeway (Dundee), one of the article's authors, shared: “The Trends Talk article was a collaborative effort, illustrating what SPPIRIT has accomplished over the past three years, including highlights from our recent annual symposium. As a committee member, it was particularly heartwarming to document SPPIRIT's positive impact on the community.” The article will be available online in January 2025—stay tuned and happy reading!



## SPPIRIT ALUMNI'S FELLOWSHIP SUCCESS

SPPIRIT is delighted to share that two former committee members have launched their independent research groups. Emma Briggs (formerly at Edinburgh) is now an MRC Career Development Fellow at Newcastle University. Her lab focuses on the cell cycle of *Trypanosoma brucei*, aiming to unravel how these parasites switch between proliferation and arrest in their hosts, and the implications for transmission, persistence, and drug resistance. Emma's group will soon be hiring—stay tuned for updates!

Juan Quintana's (formerly Glasgow) lab studies how adaptive immune cells, particularly B cells and gamma delta T cells, regulate brain homeostasis and behavior during chronic inflammation, focusing on sleep and feeding behaviors. Based at Manchester, his team leverages the unique convergence of the Lydia Becker Institute, Geoffrey Jefferson Brain Research Centre, and Centre for Biological Timing to advance interdisciplinary research.

Congratulations to Emma and Juan—wishing you success in your new roles!



**“This 8 years award will enable me to keep building a curiosity-driven research portfolio asking questions that we’re excited about, enabling us to continue pursuing discovery research. I’m thrilled and excited to begin this body of work and to grow my team in Manchester.”**

JUAN QUINTANA  
MANCHESTER

## RICHARD WHEELER JOINS UNIVERSITY OF EDINBURGH

Richard Wheeler, a recent recipient of Edinburgh's prestigious Chancellor's Fellowship, has joined the University's Institute of Immunology and Infection Research. His research focuses on the molecular cell biology of *Leishmania*, a medically significant unicellular parasite. A key aspect of his work is studying the parasite's flagellum, which is essential for its movement and life cycle progression. By combining advanced genetics, high-resolution microscopy, and extensive datasets, Richard aims to reveal the fundamental cellular systems crucial for *Leishmania*'s survival and parasitic success.





**Visceral  
leishmaniasis is  
the second  
deadliest  
parasitic disease  
after malaria,  
with 70% of  
cases in children**

DNDI

## DUNDEE TEAM AWARDED DNDI PROJECT OF THE YEAR

DNDi has announced its 2024 Projects of the Year, celebrating significant advancements in pre-clinical and clinical research. Among the winners is DNDI-6899, a candidate for leishmaniasis treatment developed in collaboration with GSK Global Health Unit and the University of Dundee. Initially paused in 2021 after Phase I trials, the compound's development rights were transferred to DNDi. Subsequent research by DNDi and partners at the University of Dundee and the University of Antwerp uncovered DNDI-6899's novel mode of action, prompting the resumption of its clinical program. In 2023, following positive feedback from UK health authorities, plans for a Phase I multiple-ascending dose study began. Now, DNDI-6899 is one of the leading candidates in DNDi's portfolio for combating leishmaniasis.

More information: <https://dndi.org/news-and-stories/news/>



## SWEENY LAB ESTABLISHED IN EDINBURGH

The University of Edinburgh is proud to welcome Amy Sweeny, who has been awarded a prestigious Royal Society University Research Fellowship. This competitive scheme supports early-career researchers across the UK and Ireland, offering up to £1.83 million in funding over eight years to pursue groundbreaking research.

Amy is a disease ecologist with a broad interest in diet, host-parasite interactions, and the dynamics of mammalian gut ecosystems. Her research focuses on leveraging ecological patterns to improve disease control and uncovering the mechanisms that shape host-parasite interactions across different scales. At Edinburgh, Amy will lead a group investigating wild animal microbiomes in the context of global environmental change, exploring how these ecosystems respond to and influence ecological and evolutionary pressures.

We look forward to the innovative contributions that Amy and her team will bring to the field!



## SPPIRIT WELCOMES NEW COMMITTEE MEMBERS

SPPIRIT is thrilled to introduce four early-career researchers who have recently joined our organising committee:

- Olivia Fleming: A 3rd-year PhD student in the Pedersen group at the University of Edinburgh, Olivia studies helminth control methods and their effectiveness in wild animal populations.
- Laurine Brouck: Having recently completed her PhD at the University of Edinburgh, Laurine is now a postdoc in Dundee's Mode of Action lab, where she develops chemoproteomics tools for target identification in anti-parasitic drug discovery.
- Peyton Goddard: A 2nd-year PhD student at the University of Dundee in Mattie Pawlowic's lab, Peyton applies a One Health approach to understand host-parasite interactions in neonatal calves infected with *Cryptosporidium parvum*.
- Rhoslyn Howroyd: A first-year NERC-funded PhD student in Amy Pedersen's lab at the University of Edinburgh, Rhoslyn explores parasite spread in wild populations, focusing on how host behaviors influence the transmission of *Heligmosomoides polygyrus* in wood mice.

We are excited to have Olivia, Laurine, Peyton, and Rhoslyn on board and look forward to their contributions to the SPPIRIT community!



## ENOCK MARARO'S VIVA SUCCESS

Congratulations to Dr Enock Mukibetti Mararo who recently defended his PhD thesis, Investigating Oxidative Stress Responses in *Trypanosoma brucei* and *T. congolense* Bloodstream Forms. His research sheds light on how these parasites, responsible for severe diseases in humans and animals, survive oxidative stress from the host immune system. A major achievement of his work was developing Morrison's Universal Medium (MUM), a novel growth medium that enabled testing of candidate genes under consistent conditions. This innovation helped uncover key parasite survival and differentiation strategies, paving the way for new treatment targets for trypanosomiasis. We wish Enock continued success in his future parasitology research!



SPPIRIT IS A  
GROWING  
NETWORK AND  
WE WOULD  
LOVE TO WORK  
WITH YOU -  
JOIN OUR  
COMMITTEE



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sppirit.network@gmail.com



## EVENTS

### DATES FOR YOUR CALENDAR

[Joint Parasitology Societies Meeting](#)  
Würzburg, Germany. 11th - 14th March 2025

Joint Parasitology Meeting, organised by the BSP, DGP, and SSTPM. Early-bird abstract submission deadline: 15 December; Final deadline: 15 January 2025.  
More information: <https://parasitology-meeting.de/>

[2nd Woman in Malaria Conference](#)  
Virtual Conference. March 19-20, 2025

The Women in Malaria Conference is a virtual conference that highlights the outstanding contributions of women and non-binary scientists in the field of malaria. Registration deadline: 30 January 2025.  
More information: <https://womeninmalaria.es/wim-conference/>

## POSITIONS

### PARASITOLOGY VACANCIES

[Post-doctoral position](#) with the Cayla Lab, University of York, investigating the adaptation mechanisms enabling African trypanosomes to progress through their life cycle and to adapt to their hosts. Interviews 20 Jan. 2025. Contact: [mathieu.cayla@york.ac.uk](mailto:mathieu.cayla@york.ac.uk)

[Post-doctoral position](#), French National Research Agency (ANR). The project will investigate glycerol-induced stumpy-like forms of trypanosomes, their biological significance, and the signaling pathways driving their differentiation. These findings aim to deepen our understanding of trypanosome development and uncover potential strategies for controlling parasite transmission.  
Contact: [rotureau@pasteur.fr](mailto:rotureau@pasteur.fr)

## RESEARCH FROM OUR NETWORK

### RECENT PARASITOLOGY PAPERS

[Abu-Elmakarem & MacLean et al. \(2024\). Mol.Biol.Evol.](#) Remarkable evolutionary rate variations among lineages and among genome compartments in malaria parasites of mammals.

[Caldwell et al. \(2024\) Sci. Trans. Med.](#) Cryptosporidium lysyl-tRNA synthetase inhibitors define the interplay between solubility and permeability required to achieve efficacy.

[Maclean et al. \(2024\). mBio.](#) The Toxoplasma gondii mitochondrial transporter ABCB7L is essential for the biogenesis of cytosolic and nuclear iron-sulfur cluster proteins and cytosolic translation.

[Albery et al. \(2024\). Phil. Trans. R. Soc. B.](#) Divergent age-related changes in parasite infection occur independently of behaviour and demography in a wild ungulate.

[Charlier et al. \(2024\). Anim. Front.](#) Sustainable worm control in ruminants in Europe: current perspectives

[Lindner et al. \(2024\). Lancet. Inf. Dis.](#) New WHO guidelines for treating rhodesiense human African trypanosomiasis: expanded indications for fexinidazole and pentamidine

[Capewell et al. \(2024\). MedRxiv.](#) Interleukin 21 is a marker of Human African Trypanosomiasis Infection and a contributor to pathology in mice

**Want to feature your new paper?  
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