

## Biochemical Society Scientific Outreach Grant – Glasgow Science Festival - Report

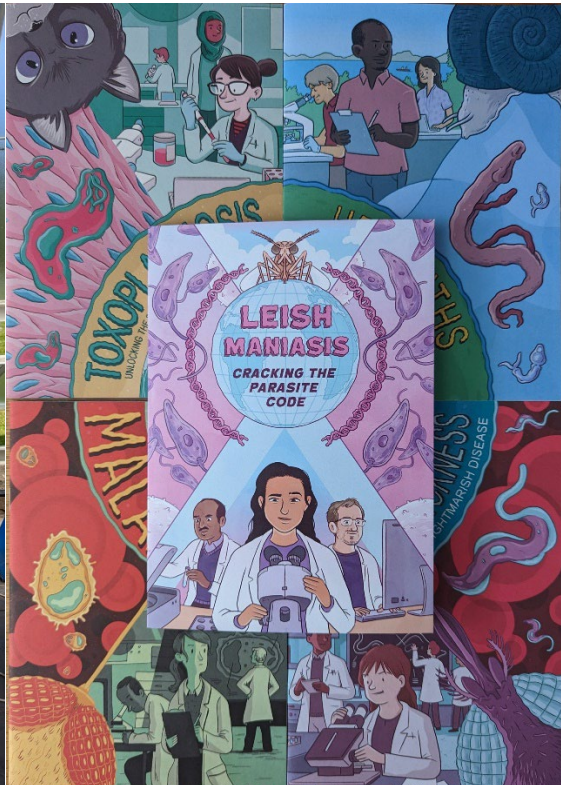
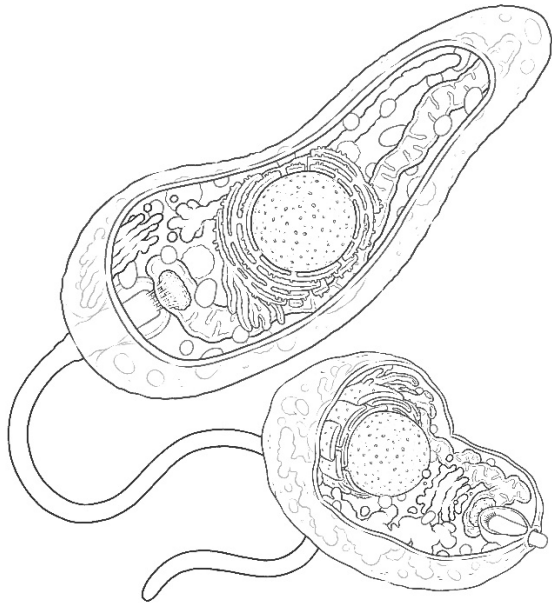
### “Can you find a cure for Leishmaniasis?”

“Can you find a cure for Leishmaniasis?” outreach event, was delivered on the 3<sup>rd</sup> and 4<sup>th</sup> June 2023 at the Kibble Palace, in the Botanic Gardens in Glasgow, as part of the Glasgow Science Festival 2023 (<https://www.gla.ac.uk/events/sciencefestival/gsf2023/forward/botanics/>). During these days 11 volunteers, including myself (see full volunteer list in the end of report), engaged with over 300 visitors ranging several ages from pre-schoolers to pensioners of all educational backgrounds.

I consider that the aims of our activity were fully met, as we successfully attracted hundreds of visitors to our stalls, with exciting activities which enabled engaging conversations about leishmaniasis as a neglected tropical disease, its clinical diversity and world distribution, the parasite causing it and the vector responsible for the transmission of this parasite.



Using a variety of engaging resources including (1) print outs of *Leishmania* parasites to colour on site; (2) a giant poster of *Leishmania* parasites and their transporter proteins, which enabled a detailed explanation of the biology of these organisms as well as the on-going scientific investigations currently underway at the University of Glasgow, aiming at finding better ways to treat leishmaniasis; (3) a comic book about leishmaniasis ([https://www.gla.ac.uk/media/Media\\_970266\\_smxx.pdf](https://www.gla.ac.uk/media/Media_970266_smxx.pdf)), depicting not only the science underway at the University of Glasgow but also detailed scientific information about *Leishmania* and Leishmaniasis in an engaging way; (4) stickers, (5) temporary tattoos (6) a giant 3D-printed sand fly and *Leishmania* parasite models and (7) microscopes with sand fly specimens, which together enabled a detailed demonstration of the full life cycle of the parasite – *Leishmania*.



Throughout this activity, the GSF team (@GlasgowSciFest #GlaSciFest), volunteers and visitors have not only exchanged knowledge, but they have also amplified their experience on social media:

Tweets:

<https://twitter.com/GraceGill/status/1665018645129338880?t=aaEPu3Es0iGvKzQCX7CBlw&s=08>

<https://twitter.com/UofGByresHub/status/1664953561858408448?t=WwTIEwuBdUweubVclm70Lw>

[&s=08](#)

<https://twitter.com/NicolaVeitchUoG/status/1665015297781145600?t=E6sOkOAXoSzkQq3rP3UVMg&s=08>

[https://twitter.com/WCIPGLASGOW/status/1664958623011819523?t=EWJKiSGrDQ\\_QQyFlzszstw&s=08](https://twitter.com/WCIPGLASGOW/status/1664958623011819523?t=EWJKiSGrDQ_QQyFlzszstw&s=08)

<https://twitter.com/WCIPGLASGOW/status/1665301847081467904>

We have met many young children, as well as young adults that never heard of leishmaniasis before and were extremely excited about the type of research and peculiar biology of these organisms, showing genuine interest in find more about it, including young MSc students that were not entirely sure what topic to choose for their PhD studies.

Also importantly, we have generated highly sustainable materials, which can be reused in future engagement and training activities, including but not limited to sand fly microscopic specimens, comic books, 3D-printed models and parasite colouring printable schematics, etc.

After this activity ended, all the volunteers were treated with an ice cream and had a sit down to discuss the overall take out of the activity. I had overwhelming positive feedback about the entire weekend. Some of the volunteers themselves (mostly undergraduate students), had never heard of leishmaniasis before and saw this activity as an outstanding learning and fun opportunity, improving their communication skills as well as developing their network.

The only alteration to the initial proposal was the title, which was adjusted to a more general one, to appear more inviting to a wider audience.

Retrospectively, although I encouraged all volunteers to take breaks to rest and keep hydrated, I believe having organized additional logistics, including more substantial food and guaranteed cold beverages for the volunteers would have been beneficial, as the local arrangements were partially affected by unexpected high temperatures and the volunteers ended up paying from their pockets for food and beverages. However, everyone was understanding and helped each other to ensure each other's wellbeing.

In future similar activities, I believe that connecting a camera between the microscopes and a larger screen would facilitate the engagement with the several microscopic specimens available, as not all visitors were quick to spot the specimens in the microscope and connecting a mobile phone to the microscope was suboptimal due to the height of some of the younger visitors.

Personally, I greatly benefited from this Outreach grant, as I was able to further improve my communication skills associated with the main topic of my research, as well as generate reusable and sustainable resources that will very likely support future engagements related to this parasite. Acting as the lead of this activity, this grant has also helped my exposure as a lead researcher in the field of leishmaniasis, which ultimately helps consolidate my position as a growing independent researcher.

For all reasons above mentioned, I am confident this activity met all the essential criteria of the Biochemical Society Scientific Outreach Grants.

Given the success of this activity, I will once again run a similar event, in collaboration with the WCIP (Hannah Bialic) and RIBB (Research Institute for Bioscience and Biotechnology, Katmandu, Nepal) the coming October 2023, at the first Science Festival of Nepal.

**Full list of volunteers:**

Andreia Wendt

Avinava Purkayastha

Farah Hamdan

Federica Giordani

Fiona Mackintosh

Grace Gill

Hannah Bialic

Mariam Ahmed Mahmoud

Rosalina Intan Saputri

Sanzida Islam Bristi

Shaima Riha

**Note:**

The Glasgow Science Festival (GSF) communications team has documented and evaluated in depth all activities ran in this Festival and will soon release several reports, as well as the pictures taken, during this time, which have been appropriately collected with consent of the visitors.

For further information about this or other GSF activities, please contact Glasgow Science Festival Assistant, Hayley Lowe ([hayley.lowe@glasgow.ac.uk](mailto:hayley.lowe@glasgow.ac.uk)) or the Director, Glasgow Science Festival and Head of Public Engagement in STEMM, Dr Deborah McNeill ([deborah.mcneill@glasgow.ac.uk](mailto:deborah.mcneill@glasgow.ac.uk)).