EVA GLUENZ PhD

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Current Position, University of Oxford, UK

- Member of the Faculty of Physiological Sciences and Retaining Fee Lecturer in Pathology at Trinity College (since October 2009)
- Post-doctoral Research Associate at the Sir William Dunn School of Pathology, working in the laboratory of Professor Keith Gull (since October 2004)

Education

May 2005	Obtained PhD in Molecular Biology from the London School of Hygiene and Tropical Medicine (LSHTM), University of London, UK Thesis title: Developmentally regulated genes in *Trypanosoma cruzi*. Supervisor: Professor John M. Kelly
1998-2000	MSc in Biology, awarded the highest grade (6), Institute of Cell Biology, University of Bern, Switzerland
1995-1998	Studied for major in general microbiology at the University of Bern

Research interest

I study a group of protozoan parasites, the trypanosomatids, which cause disease in tropical and subtropical countries of the world. At the Dunn School, I have been using molecular biology and electron microscopy to study the organisation and segregation of DNA in the trypanosome nucleus (Gluenz et al., 2008) and in the kinetoplast, a unique organelle that contains the mitochondrial genome. This work has revealed new information about kinetoplast architecture (Gluenz et al., 2007), how it is divided during cell division (manuscript in preparation) and, working with collaborators in the USA, we have discovered that a new function for the enzyme Topoisomerase II is the repair of holes that form when kinetoplast DNA is replicated (Lindsay et al. 2008).
The most exciting discoveries have come recently, when we found that the flagellum structure of the intracellular form of the *Leishmania* parasite resembles that of sensory cilia. Our findings are breaking new ground in understanding how the parasite might sense and possibly manipulate, its environment and it is in this area that I will concentrate my efforts in the coming years.

Teaching experience

Undergraduate and MSc courses

- Since January 2008, I have been co-organising the Molecular Parasitology theme for the Infection & Immunity option in FHS Medical Sciences at the University of Oxford, and I am an Assessor for the final examinations.
- I deliver lectures, tutorials, and seminars in pathology, microbiology and molecular parasitology for medical students (BM2 and FHS).
- From 1999-2004, I taught practical courses in microbiology and bioinformatics at the University of Bern, and at the London School of Hygiene and Tropical Medicine.

Supervision of research projects

- I am the co-supervisor of two DPhil students at the University of Oxford, and have to date been responsible for planning and supervision of five undergraduate student projects in the laboratory.

Workshops in Africa

I have been involved in planning, curriculum development and teaching in three workshops to train young African scientists in cell biology and bioinformatics.

- First West African Regional Workshop, University of Ghana at Legon (2009).
- 7th Annual East African Regional Workshop in Morogoro, Tanzania (2008).
- HFSP Course in Bioinformatics and Post Genomic Molecular Cell Biology of African Trypanosomes and Malaria, Kampala, Uganda (2006).

Presentations and publications

Invited talks

2009 ASCB Education initiative Forum, San Diego, USA
2009 Departmental Seminar, Swiss Tropical Institute, Basel, Switzerland
2009 Swiss Trypanosomatid Meeting, Leysin, Switzerland
2008 Society for General Microbiology Autumn Meeting, Dublin, Ireland
2008 Departmental Seminar, Department of Chemistry and Biochemistry, University of Bern, Switzerland

Conference presentations

2009 American Society for Cell Biology, Annual Meeting, San Diego, USA
2009 Kinetoplastid Molecular Cell Biology Meeting, Woods Hole, USA
2007 Kinetoplastid Molecular Cell Biology Meeting, Woods Hole, USA
2006 11th International Congress of Parasitology (ICOPA), Glasgow
2005 BioScience 2005, Glasgow
2004 British Society for Parasitology Trypanosomiasis and Leishmaniasis Seminar, Ceske Budejovice, Czech Republic
2003 Molecular Parasitology Meeting, Woods Hole, USA

Eva Gluenz

Publications in peer-reviewed journals

Dawe H and Gluenz E. The tale of the trypanosome tail. Biologist 2009, in press.

Sharma R, Gluenz E, Peacock L, Gibson W. Gull K and Carrington M. The Heart of Darkness: *Trypanosoma brucei* in the tsetse fly. Trends Parasitol. 2009, 25:517-24.

Smith TK, Vasileva N, Gluenz E, Terry S, Kramer S, Carrington M, Gull K and Rudenko G. Blocking Variant Surface Glycoprotein synthesis in *Trypanosoma brucei* triggers a global translation arrest. PLoS One 2009, 4(10):e7532.

Signorell A*, Gluenz E*, Rettig J, Schneider A, Shaw MK, Gull K, Bütikofer P. Perturbation of phosphatidylethanolamine synthesis affects mitochondrial morphology and cell cycle progression in procyclic form *Trypanosoma brucei*. Mol Microbiol. 2009, 72(4):1068-79. *equal contribution.

Lindsay ME*, Gluenz E*, Gull K, and Englund PT. A new function of *Trypanosoma brucei* mitochondrial topoisomerase II is to maintain kinetoplast DNA network topology. Mol Microbiol. 2008, 70:1465-76. *equal contribution.

Gluenz E, Sharma R, Carrington M and Gull K. Functional characterisation of cohesin subunit SCC1 in *Trypanosoma brucei* and dissection of mutant phenotypes in two life cycle stages. Mol Microbiol. 2008, 69:666-80.

Barker AR, Wickstead B, Gluenz E and Gull K. Bioinformatic insights into the ESAG5 and GRESAG5 gene families in kinetoplastid parasites. Mol Biochem Parasitol. 2008, 162 112-22.

Sharma R, Peacock L, Gluenz E, Gull K, Gibson W and Carrington M. Asymmetric cell division as a route to reduction in cell length and change in cell morphology in trypanosomes. Protist 2008, 159:137-51.

Gluenz E, Shaw MK, Gull K. Structural asymmetry and discrete nucleic acid subdomains in the *Trypanosoma brucei* kinetoplast. Mol Microbiol. 2007, 64:1529-1539.

Gluenz E, Taylor MC, Kelly JM. The *Trypanosoma cruzi* metacyclic-specific protein Met-III associates with the nucleolus and contains independent amino and carboxyl terminal targeting elements. Int J Parasitol. 2007, 37:617-25.