

2017 British Society for Parasitology Autumn Symposium
Thursday, 28th September at the Linnean Society, Burlington House, London

**The multidisciplinary of parasitology:
Host-parasite evolution and control in an ever changing world**

Organisers: Prof. R. Stothard (LSTM) & Dr B. Webster (NHM)



Background and introduction

It is well-known that the study of parasites is a broad and far reaching discipline, constantly changing in its remit and often in its priorities. With this in mind, we warmly welcome everyone with the simple message that *'all living species are involved in parasitism, either as parasites or as hosts'*. This is a universal truth which sets the foundation for today's Autumn Symposium entitled **"The multidisciplinary of parasitology: host-parasite evolution and control in an ever changing world"**. Without doubt, as a way of life parasitism is a successful evolutionary strategy but is also part of a broader picture of symbiosis, and a convenient classification of the dynamics of how organisms, big or small, interact. As a metaphor it is tremendously powerful, and regularly used in today's language to describe significant socio-political events as societies and even nations sometimes negatively exploit others. The agenda of parasitology is exciting, challenging and globally relevant.

Nonetheless, today's Symposium on parasitism also underpins mutualism, those interactions seen to benefit all players, as our meeting is also supported by The Linnean Society of London, The Royal Society of Tropical Medicine & Hygiene, The London Centre for Neglected Tropical Diseases and also The International Federation for Tropical Medicine (ITFM). Notably, each has provided much more than goodwill. We also thank our guest speakers, poster presenters and all attendees. With the award of ITFM Medal, our meeting also celebrates the career of Dr David Rollinson, a former President of the BSP, who has been active in parasitological research for over 40 years and recently received the Linnean Society Gold Medal in recognition for his services to science. Thus, our Symposium also seeks to encourage others to devote their careers and efforts into parasitological research. For the first time, there will be two open poster sessions taking place in the Linnean library, each augmented by 2 minute speed talks within the main auditorium; the intention is to encourage discussion and dialogue over the lunch and afternoon tea breaks.

For convenience, we have split today's Symposium into three themes but these divisions blur, as well they should, for we encourage cross-talk as much as possible. The **'ever changing world'** hopes to place parasitological research within the new terminology of the Anthropocene and how mankind is altering global environments which may or may not favour parasitic diseases of medical, veterinary or wildlife importance. The **'multidisciplinary of parasitology'** encourages synergies between molecular, ecological and social science components that link parasites and hosts into a more holistic appraisal of parasitism. The meeting closes upon **'host-parasite evolution and control'** to recognise that parasites are not simple self-replicating automata and are very able to respond rapidly to interventions waged against them. It is very fitting to discuss this aspect of parasitism here in the Linnean Society where Darwin and Wallace once read their papers, nearly 160 years ago. To close, we hope you are inspired by today's meeting, form new friendships, enjoy the conviviality of the BSP at tonight's dinner and look forward to the production of a special issue of *Parasitology* resultant from today's discussions.

Bonnie Webster & Russell Stothard & 28.09.2017

The BSP AS is in conjunction with the Linnean Society with generous support from RSTM&H, LCNTD & LSTM

Programme:

From 10.00 am, symposium registration is open with morning drinks in the Linnean Library.

We encourage the use of Twitter and kindly ask that you use #BSPAS2017 for e-communications.

Timetable:

Session A	Chair: Prof. R. Stothard	Theme - <i>an ever changing world</i>
10.30 am -	Welcome Prof. Sir R. Anderson	Progress in the control of human helminth infections by mass drug administration
11.05 -	IFTM Medal (see http://www.iftm-hp.org/)	Award of International Federation for Tropical Medicine (IFTM) Medal to Prof. D Rollinson, citation read by IFTM President Prof. Mas-Coma with personal anecdotes by Prof. Southgate
11.15 -	Prof. S. Mas-Coma	Human fascioliasis spread: Impact of crucial mankind's history events
11.35 -	Prof. L. Tchuem-Tchuente	From basic parasitology to applied public health: Challenges for the control of helminthiasis in Cameroon
11.55 -	Prof. D. Molyneux	Addressing neglected parasitic diseases: Moving towards the development agenda amidst change-partnerships, networks and global health policies
12.15 -	Panel discussion & session I speed posters talks 2 minute each (abstracts 1-8)	
12.45 pm	Buffet lunch in the Linnean Library with poster viewing (1-8)	
Session B	Chair: Prof. D Molyneux	Theme - <i>the multidisciplinary of parasitology</i>
1.45 pm -	Prof. R. Gasser	Harnessing genomic and bioinformatic tools to explore socioeconomically important parasites
2.15 -	Prof. J. Utzinger	Schistosomiasis, snails and prawns: The interplay of parasitology and ecology
2.35 -	Dr B. Webster	New molecular tools to provide insights into schistosome diversity in Africa and beyond
2.55 -	Prof. T. Anderson	The genetic basis of transmission-related traits in schistosomes
3.15 -	Panel discussion & session II speed poster talks 2 minutes (abstracts 9-16)	
3.40 pm	Afternoon tea in the Linnean Library with poster viewing (9-16)	
Session C	Chair: Dr D. Rollinson	Theme - <i>host-parasite evolution and control</i>
4.10 pm -	Prof. J. Webster	A OneHealth approach to schistosomiasis control in our changing world
4.40 -	Dr L. Reimer	The evolving needs of vector-borne disease surveillance across the world
5.00 -	Prof. J. Vercruysse	Control of helminth ruminant infections by 2030
5.20 -	Dr T. Littlewood	Palaeontology meets parasitology: The changing perspective of fossil parasites to parasite futures
5.40 -	Panel discussion	
5.55 pm	Closing remarks Prof. M. Taylor (BSP President) Evening drinks in the Linnean Library sponsored by the LCNTD with poster viewing until 6.45pm.	

7.30 - 11.00 pm Symposium dinner (by ticket) with live music at the Kings Head, Mayfair, W1S 4RX

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To augment the poster session (abstracts **1 – 8** at lunchtime and abstracts **9 – 16** at tea break), there will be speed poster talks in the main auditorium.

In these sessions, the author presents a single Powerpoint slide, in no more than 2 minutes, to highlight the essence of their poster's key information and take home messages.

There will be no questions taken from the floor during the speed poster sessions for the intention is to initiate discussions directly at the poster itself.

Authors from these sessions will also be invited to produce a short-article for consideration within the special issue of *Parasitology* resultant from this meeting.

Speed talks	Presenter	Title
Session I	12.30 pm -	
1	M.D. Barges	DNA multigene characterization of main autochthonous lymnaeid vectors involved in fascioliasis transmission in human endemic areas in Latin America.
2	L. Hammill	Integrating vector control and test-and-treat with doxycycline as part of a multidisciplinary approach for the control of onchocerciasis in Cameroon.
3	A. Hembem	Sensitive pan-malaria LDH immunosensor and comparison with OptiMAL rapid diagnostic kit.
4	M. Markus	<i>Plasmodium vivax</i> in bone marrow: A newly recognised malaria control problem.
5	T. Kuster	Multidisciplinary studies on <i>Dermanyssus gallinae</i> : Enhanced delivery of a prototype poultry red mite vaccine.
6	F. Gadelha	<i>Trypanosoma cruzi</i> isolates from patients with distinct manifestations of Chagas disease: Which biochemical features distinguishes them?
7	F. Allan	SCAN: Developing and maintaining a national archive of schistosome material at the Natural History Museum, London.
8	D. Cook	New methods to detect parasites in vectors: Using nanotechnology to aid xenomonitoring.
Session II	3.25 pm -	
9	L. Cunningham	DNA platform for detection of NTDs in Ghana: baseline parasitology information for household surveys for soil-transmitted helminthiasis and schistosomiasis.
10	S. Ferguson	The parasite-host interactions of mammalian microsporidial infections: Hexokinase at the interface.
11	U. Anjum	First detection of microsporidia in animal faecal samples in urban parks in Leicester, UK.
12	H. Hoosen	Use of a faecal parasite concentrator 'mini Parasep SF' for detecting microsporidia in urban areas.
13	Z. Bartonicek	Multidisciplinary studies at Barombi Kotto, Cameroon: Using eDNA analysis to assess presence of schistosomes in the crater lake.
14	J. Fenn	Parasite immunology: From the laboratory to the field with studies of feral mice from the Isle of May, Scotland.
15	E. Agyei-Obese	Transmission blocking activity of a standardised neem seed extract (<i>Azadiracta indica</i>) on the rodent malaria parasite <i>Plasmodium vivax</i> .
16	S. Kayuni	Multidisciplinary studies of Male Genital Schistosomiasis (MGS) in fishermen of Lake Malawi an ignored, neglected tropical disease.

2017 International Federation for Tropical Medicine Medal

Professor David Rollinson

with citation read by Professor Santiago Mas-Coma

and personal anecdotes by Professor Vaughan Southgate



Professor David Rollinson undertook his BSc degree at University of Cardiff and then a PhD at Imperial College London with Professor Liz Canning. Throughout his studies he maintained a fundamental interest in evolution and how animals, especially parasites adapt to the challenges of their lifecycles.

Upon completion of his Doctorate which focused on the biology of mammalian coccidia and studies on enzyme variation within *Eimeria*, he joined the Experimental Taxonomy Unit at the Natural History Museum (NHM), London. Initially working as a population geneticist with the then Director Dr Christopher Wright, David broadened his interests in parasitology to later become a foremost world-expert on characterisation of schistosomes and their intermediate snail hosts, together with his long term NHM colleague and friend, Dr Vaughan Southgate.

Throughout his research David has been a pioneer in application of new methods to characterise phenotypic and genetic diversity and also foster a multidisciplinary approach. This was firmly based on direct observations made in the field while undertaking numerous missions to Africa. To date, he has published over 270 peer-review manuscripts, and even during the last year has been author to over 10 and has highlighted the outbreak of schistosomiasis on Corsica and has co-ordinated two special issues in the *Infectious Diseases of Poverty*.

During his career, there have been many highlights which include award of scientific medals (from the Linnean), Presidencies of learned societies (the BSP and WFP), directing and steering academic journals (*Advances in Parasitology*) and well as guiding the careers' of others through teaching, supervision and mentoring. You will find many here today as well as several life-long friends, to have benefited from David's kindly approach to collaboration and sharing of his knowledge. In recent years David has helped to define the agenda for elimination of schistosomiasis and in recognition of his international standing he has been invited to direct the Global Schistosomiasis Alliance. This draws together several international agencies to promote concerted action on disease control and we are particularly fortunate to have David's wisdom to facilitate.

As a family man, David is blessed with a loving wife, Liz, the secretary of the Linnean Society, and three adult children Poppy, Tom and Charlotte, now with a growing list of grand-children. His outside interests are many, a first-class chess player at very high club-level standard and a lover of classical and live music, being an Eric Clapton fan in particular. He is also a keen gardener, tending his greenhouse and vegetable patch with care and delighting in each season's produce. David is also an amateur photographer of local repute and a passionate wildlife explorer having made many trips to see the splendours of the natural world, from jungles in the Amazon to seascapes in the Southern Ocean. He typically shares these experiences with top quality photographs and exciting tales of adventure.

While we celebrate over 40 years of international research, it is premature to say what will be his next interest or where will he go next, for there are still many choices ahead, but we can be sure that David will foster the multidisciplinary of parasitology is always at the top of his agenda.

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