

Clotilde Carlow
Head, Division of Parasitology

Education:

1980	B.Sc. (Honors) Zoology and Parasitology, University of Glasgow, Scotland
1981	M.Sc. Medical Parasitology, London School of Hygiene and Tropical Medicine Medicine, University of London, England
1984	Ph.D. Parasite Immunology, London School of Hygiene and Tropical Medicine Medicine, University of London, England

Research Interests:

Parasitic nematodes infect over one half of the world's population, causing significant mortality and morbidity. They also cause significant problems in plants and animals. River blindness (onchocerciasis) and lymphatic filariasis, two diseases caused by filarial nematodes are among the most important tropical diseases. Research in my laboratory is centered on the biology of filarial nematodes and their *Wolbachia* endosymbionts. We use the free-living nematode *Caenorhabditis elegans* as a model for parasitic nematodes since it shares many essential developmental processes and structural features. In addition, it offers a wealth of information since its genome has been completely sequenced, and there is a substantial collection of genetic information on many genes and genome-wide studies on gene function using RNAi. The sequence of the genome of the human filarial nematode *Brugia malayi* has also been recently completed. We are now using comparative and functional genomics to identify conserved nematode genes with an essential function that likely play an important role in nematode biology. These studies also allow us to identify those proteins that are absent from mammals that can be pursued further as potential drug targets.

Filarial parasites are unique among nematodes in harboring obligate intracellular *Wolbachia* bacterial endosymbionts. These rickettsia-like bacteria are related to the *Wolbachia* endosymbionts of arthropods that are known to regulate a number of essential processes in their insect host including reproduction, gender and survival. We are pursuing molecular approaches to learn more about filarial *Wolbachia* which appear to be essential for parasite development and survival.

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