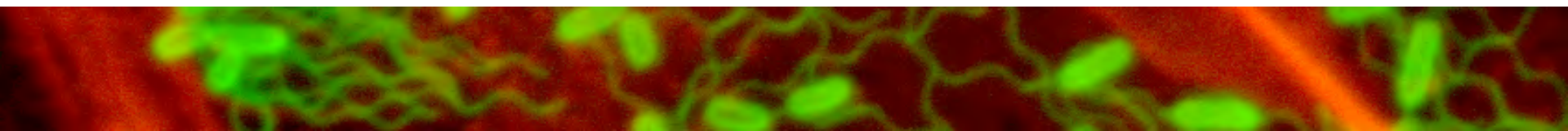




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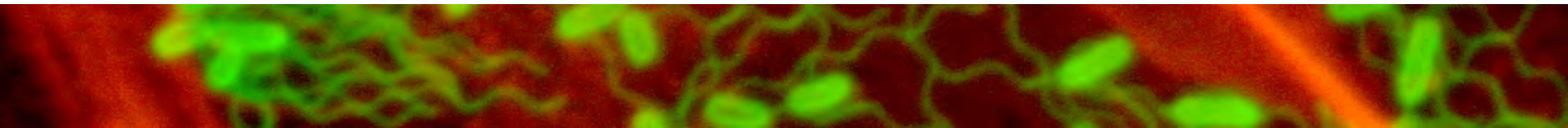
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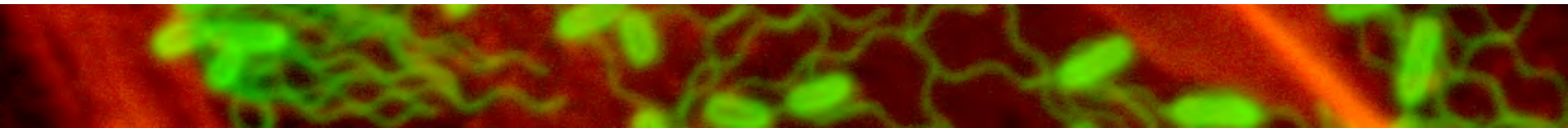
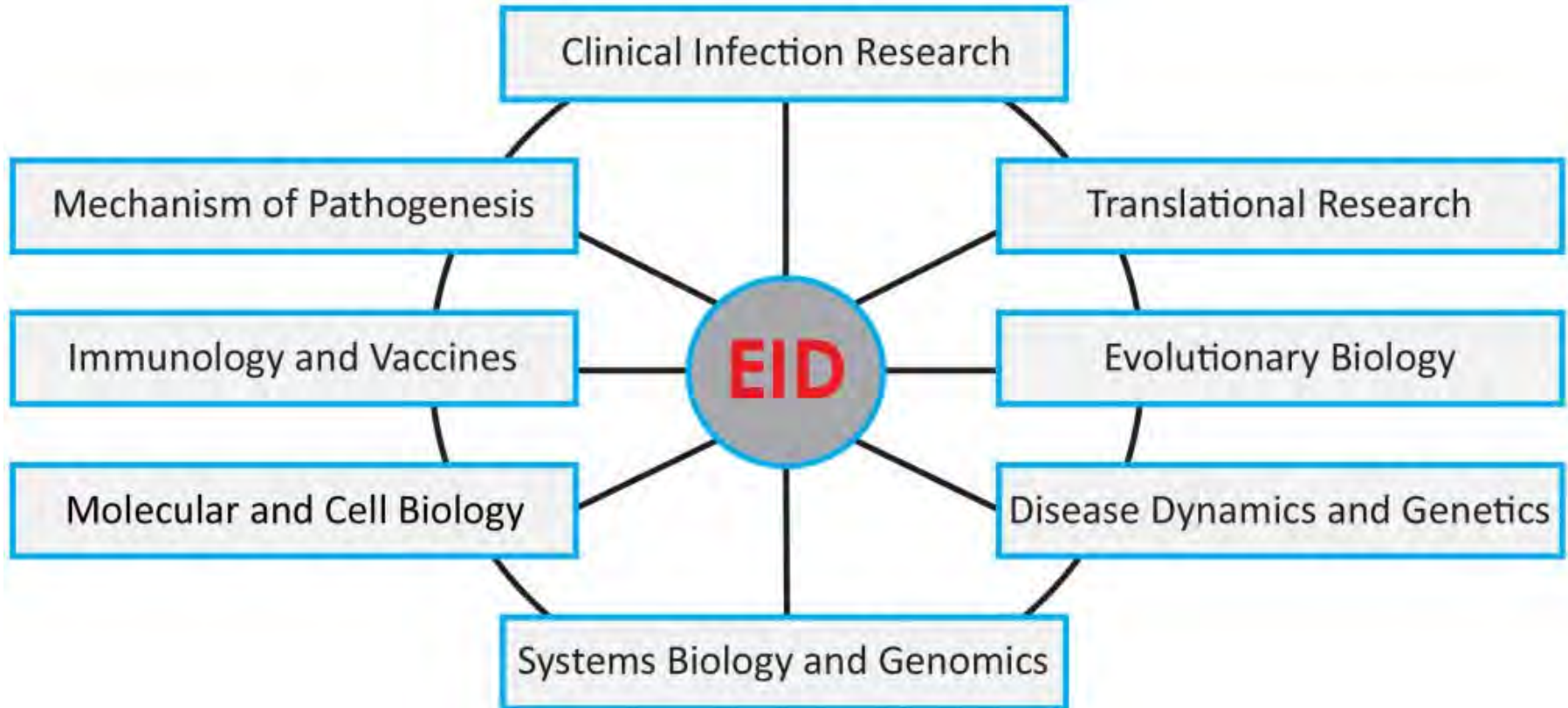


What is *Edinburgh Infectious Diseases*?

- The network of researchers in Edinburgh who work on infectious disease
- Over 750 people work in *Edinburgh Infectious Diseases*: scientists, clinicians and social scientists
- More than 150 different research group leaders
- Almost 200 postdocs
- Over 280 PhD students



Covering the full scope of Infectious Diseases research

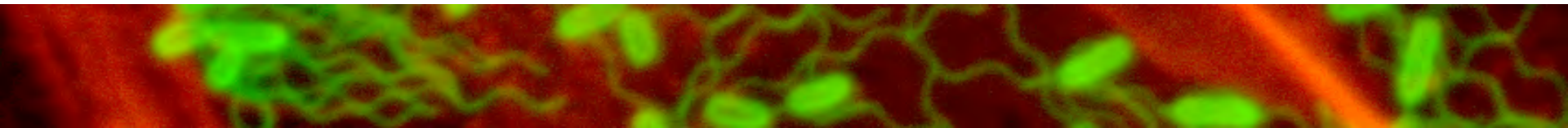


Activating Impact Project: Background

In October 2013, three technology scouts were appointed to identify potential new opportunities for industrial collaboration within *Edinburgh Infectious Diseases*.

Three specific field of research were identified:

- **Vaccinology**
- **Anti-microbials**
- **Inflammation, allergy and infectious diseases**





Main focus areas in vaccinology theme:

- Malaria vaccine candidates
- Adjuvant development/antigen delivery
- Veterinary vaccinology

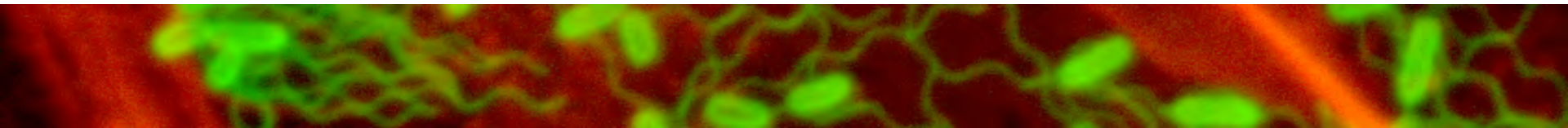


Malaria vaccine candidates

- **Dr David Cavanagh** – GMP ready candidate antigen with excellent results in Aortus monkey model.
- **Professor Alex Rowe** – patent at PCT for vaccine candidates targeting severe malaria.
- **Dr Joanne Thompson** – host parasite interactions, specifically novel GPCRs.

Adjuvant development / antigen delivery

- **Professor Keith Matthews** – Trypanosomes as a bovine vaccine delivery platform.
- **Professor David Gally / Dr Tom McNeilly** – adjuvants that target mucosal immunity and reduce required antigen dose.
- **Professor Sarah Howie** – alternatives to Alum with reduced tissue reactivity.
- **Professor John Hopkins / Dr Jayne Hope** – characterisation of dendritic cells draining vaccination sites in large animal models .
- **Dr David Griffiths** – retroviruses as vaccine vectors.



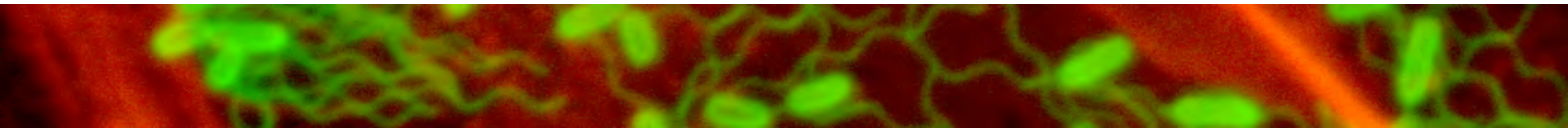
Veterinary Vaccinology

- **Professor Mark Stevens / Professor David Gally** – bacterial zoonoses of poultry and cattle.
- **Dr Alasdair Nisbet** – recombinant subunit vaccines in poultry and sheep.
- **Dr Tom McNeilly** – *E. coli* O157 (cattle), gastro-intestinal helminths (sheep).
- **Professor Ross Fitzgerald** – *Staphylococcus aureus* (cattle) and *S. pseudintermedius* (dogs).
- **Professor Gary Entrican** – Chlamydia (sheep).
- **Professor Ivan Morrison** – Theileria (cattle).



Main focus areas in antimicrobial agents and infectious diseases theme

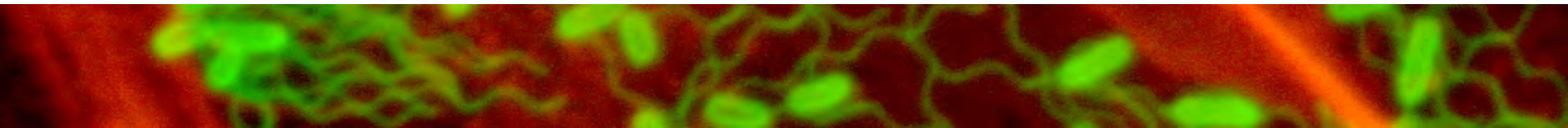
- Targets and pathways for developing novel antimicrobial agents
- Targeting microbial community dynamics and evolution
- Diagnostics and drug efficacy validations





Targets and pathways for developing novel antimicrobial agents

- **Dr Peter Barlow** - The activities of cationic host defense peptides in respiratory disease therapy
- **Dr Douglas Fraser-Pitt** - Novel Pathways for synergistic cystic fibrosis therapy.
- **Professor Anura Rambukana** - Bacterial induced host cell reprogramming for neuro-degenerative disease therapy.
- **Professor José Vazquez-Boland** - Novel target areas for equine respiratory disease therapy and vaccine development.
- **Dr Garry Blakely** - Novel targets and pathways for post-surgical bowel infections.

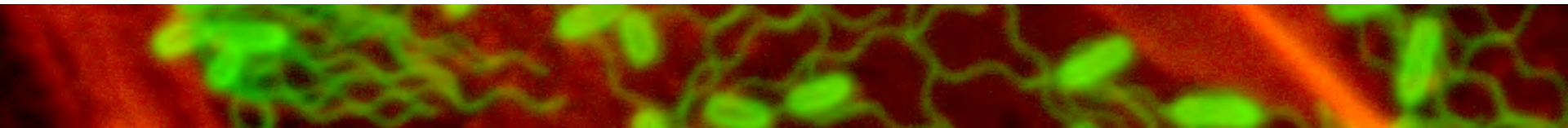


Targeting microbial community dynamics and evolution

- **Dr Sam Brown / Dr Teuta Pilizota** - Anti-quorum sensing agents targeting microbial community dynamics.
- **Professor Andrew Leigh-Brown** - Molecular evolution of HIV.
- **Professor Sebastian Amyes** - Bacterial evolution and resistance.

Diagnostics and drug efficacy validations

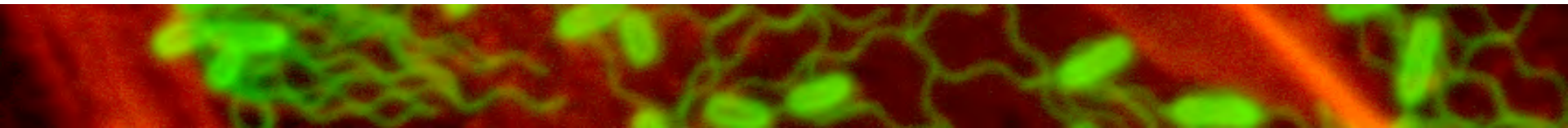
- **Dr Teuta Pilizota** - Novel real-time eco-modulation assay for antibiotic efficacy validation.
- **Professor Ross Fitzgerald** - Genomics, molecular markers and diagnostics of Staphylococcal infections.





Main focus areas in inflammation, allergy and infectious diseases theme:

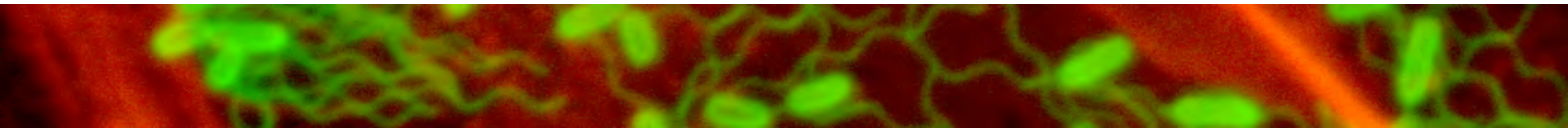
- Helminth interplay with the immune system
- Novel drugs targeting infectious and neglected tropical diseases
- Developing diagnostic against infectious and neglected tropical diseases





Helminth interplay with the immune system

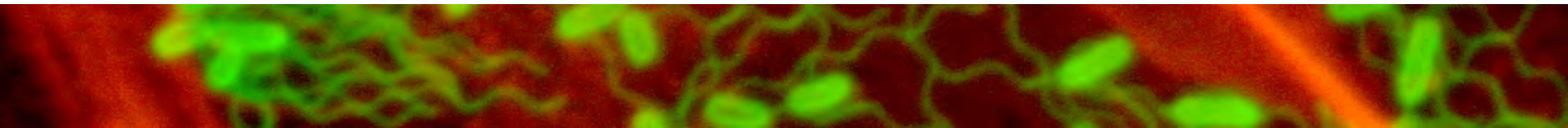
- **Professor Judy Allen** - Immune modulation and effector mechanisms induced by microbial and helminth pathogens.
- **Professor Rick Maizels** - Immune modulating molecules of helminths.
- **Dr Matthew Taylor** - Priming and maintenance of T cell responses during chronic helminth infections.





Novel drugs targeting infectious and neglected tropical diseases

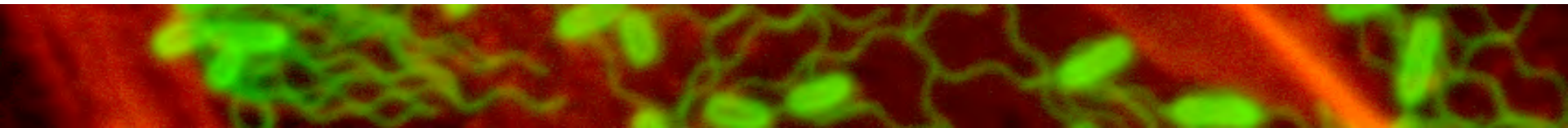
- **Professor Keith Matthews** - Trypanosome cell biology and development.
- **Dr Achim Schnafer** - Mitochondrial biology of trypanosomatid parasites and drug development.
- **Professor Paul Michels** - Metabolism of trypanosomatid parasites and drug discovery
- **Dr Liam Morrison** - Disease severity, and drug resistance in protozoan parasites of humans and livestock, with a particular focus on African trypanosomes.
- **Professor Malcolm Walkinshaw** - Structure-based drug design targets for disease indications such as cancer and infection.





Developing diagnostic against NTDs/ infectious diseases

- **Dr Francisca Mutapi** - Immune responses to and immunoepidemiology of human schistosomiasis.
- **Dr Kim Picozzi** - Molecular epidemiology of the neglected zoonoses such as African trypanosomiasis and brucellosis.
- **Professor David Taylor** - Helminth vaccine development.





Funding streams to support commercial-academic interactions:

- Technology Strategy Board
- Horizon 2020
- Wellcome Trust
- UK Research Councils (MRC and BBSRC)



Contact details

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