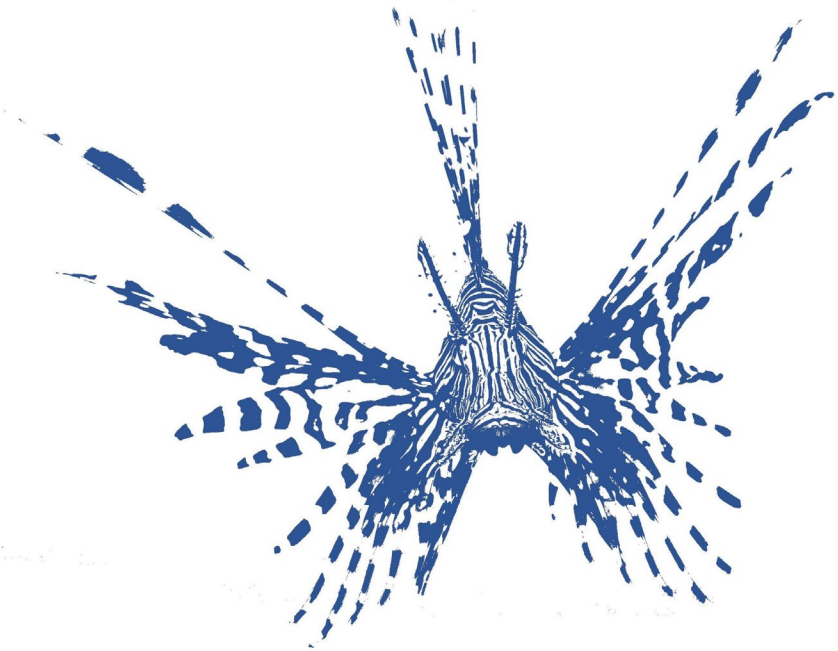
UNIVERSITY OF CAMBRIDGE
Department of Zoology



Pterois (Lionfish)

Alumni and Friends Day

Saturday 3rd September 2022

Event Schedule

11:15 – 11:40

11:15am Welcome to the Department, and Refreshments in the Elementary Laboratory

11:45– 12:40

Tour of three laboratories in rotation
1. Tim Weil (*Drosophila* Developmental Biology)
2. Lynn Dicks (Agroecology)
3. Samuel Matchette and Roxanne Holmes (Marine Behavioural Ecology)

12:45-13:00

Teaching Zoology at Cambridge: past, present and future
Nick Mundy (Deputy Head of Department, Teaching)
Long Wing of Elementary Laboratory

13:00 - 14:00

Lunch in the Part II Common Room, Second Floor

14:00 - 14:55

Lecture by William Sutherland CBE on '*Evidence and Decision-making',* Main Lecture Theatre*,* Ground Floor by Reception

15:00 - 15:55

Animal SPOTS Quiz, Short Wing of Elementary Laboratory

16:00 - 17:00

Tea and cake in the Part II Common Room with past and present members of the Department. Presentation of Prizes for the Quiz.
Short talks: Professor Howard Baylis (Head of Department)
William Foster (Director of Alumni Relations & Fundraising)

- In case of an emergency, contact Security on **01223 318318**

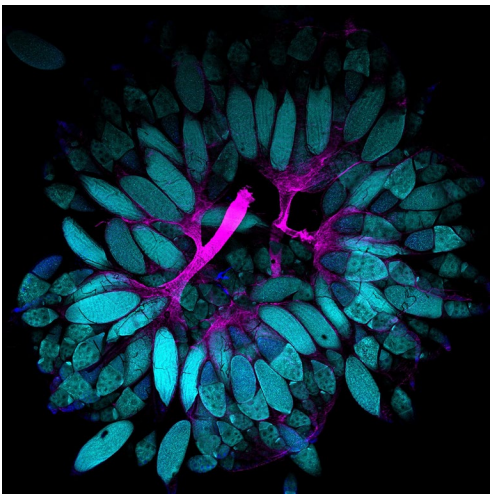
Lab Tour

***Dr Tim Weil,* Associate Professor and Deputy Head of School for Undergraduate Strategy,** Main Building Basement B31

Our group aims to address the fundamental, and fascinating, question of how a single cell becomes a fully functioning organism. We want to understand the mechanisms that underpin the spatial and temporal coordination of egg and early embryo development. We have a particular interest in the regulation of mRNA.

Failure to control RNA translation is implicated in a number of human diseases, including Fragile X Syndrome, schizophrenia, spinal muscular atrophy, and cancer.

Egg activation is an equally important step in animal development. This universal event results in key cellular changes that lead to embryogenesis. Since many of the factors we are testing in fruit flies are conserved in vertebrates and mammals, our work has important implications beyond insect biology and will help to inform future human medical treatments.



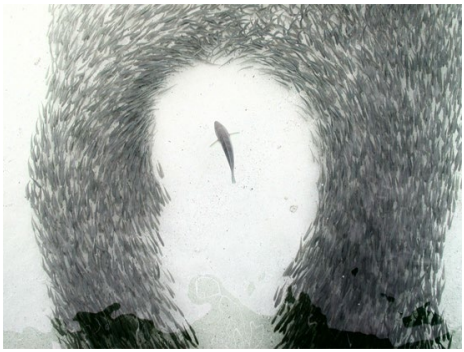
Drosophila eggs developing prior to fertilisation. Cytoplasm = green, Nuclei = blue, Actin = magenta.

Lab Tour

Dr Samuel Matchette, Research Associate
Roxanne Holmes, PhD Student
Marine Behavioural Ecology Group, Austin Wing, Ground Floor, G18

Our research investigates the causes and consequences of animal behaviour, with a strong focus on marine organisms. How do animals gather information from their social and physical environment, and how do they use this information to inform their behavioural decisions? What benefits do animals gain from behaving the way they do, and why do they not adopt other behavioural strategies? How do animals adapt their behaviour to different ecological or social environments, and what benefits, costs and constraints do they face when doing so?

We primarily use fishes as model systems to answer these questions. Our research framework uses theory-driven questions, manipulative experimental methods, and highly quantitative data acquisition techniques to analyse and interpret behaviour. We use this framework in controlled laboratory experiments as well as in the field to understand the outstanding diversity of behavioural adaptations in marine organisms.



Hardyheads and tuskfish,
Photo by John F. Steffensen

Lab Tour

***Dr Lynn Dicks, Associate Professor in Animal* Ecology (PhD *Zoology* 2002)**
Agroecology Group, Main Building, S29

Agriculture covers half of the habitable land on Earth and is the most important driver of biodiversity loss. Defining what 'sustainable agriculture' looks like has become a central conundrum in nature conservation, and farmers are important players in finding long-term solutions that allow humans to live sustainably on Earth without destroying nature.

In the Agroecology group, we are interested in understanding ecological processes and functions in agricultural ecosystems, and in conserving wild species that live within and around these working landscapes.
We use a range of methods, including genetics, remote sensing, audio-recording, experimental and observational field ecology and network analysis. We work mostly on animal taxa that are functionally important in the system, particularly wild pollinators (especially bees), predatory invertebrates, and birds. These species provide long-term resilience and stability to food production, even in highly intensive systems that are heavily degraded from a biodiversity perspective. We have current projects in the UK, India, Brazil and Chile. Visit our lab to hear more about our work, and take a closer look at (and listen to) some of our sites and study species.

Teaching Zoology at Cambridge: Past, present and future 12:45-13:00

Professor Nick Mundy, Deputy Head of Department (Teaching)

Elementary Lab, Main Building

Nick will answer your questions, about the current teaching of Zoology across the three years of the Natural Sciences Tripos; how it has changed, or indeed not changed, over the years; and the prospects for the future.

Lunch 13:00-14:00

Lunch is provided in the Part II Common Room on the Second Floor.

Lecture	14:00-14:55

Evidence and Decision-making,

Professor William Sutherland CBE, Miriam Rothschild Professor of Conservation Biology, Main Lecture Theatre, with introduction by Dr Lynn Dicks.

Stone curlew, photo by Lawrie Webb, Norfolk Wildlife Trust

Bill started his career as a biologist interested in developing theoretical models for answering applied questions. He then became more of a conservation scientist and was elected to the Chair of Conservation Biology here in 2006. Bill was awarded a CBE in 2021 'for services to evidence-based conservation'.

He is regularly shocked by how badly decisions are made by policy makers and practitioners and over the last twenty years has been determined to deliver change through a series of new approaches. His work includes horizon scanning to identify future issues to reduce the surprises of future developments and the industrial-scale collation of evidence to determine which interventions are effective and which are not. This talk will be illustrated with examples from conservation but the principles apply much more widely.

His latest edited book is *Transforming Conservation: a practical guide to evidence and decision making,* which he says should be out in plenty of time for Christmas and makes a perfect present. It is also open access so ideal for those seeking presents on a very tight budget.

Animal SPOTS quiz 15:00-15:55

Short Wing of Elementary Lab.

The Curators of Insects (Edgar Turner), Vertebrate Palaeontology (Jason Head) and Malacology (Richard Preece) have each provided 5 specimens for you to identify. Have fun working out what they are.

The answers will be revealed at the end of the session.

Lavish prizes will be available for the winners and runners-up.

Tea & Cake 16:00

At the end of a busy day, enjoy a cup of tea and a slice of cake in the Part II Common Room with other alumni and friends.

Professor Howard Baylis, Head of Department, will bring you up to date about events in Zoology over the past year and the year to come.

Dr William Foster will talk briefly about Alumni Relations and Fundraising.

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https://www.zoo.cam.ac.uk/support-zoology

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UNIVERSITY OF CAMBRIDGE

10% discount for Alumni and Friends in the Museum of Zoology Gift Shop

On Saturday 3rd September 2022, between 10.00am and 4.30pm on all shop purchases on presentation of your programme (excludes sale items).