



UNIVERSITY OF
CAMBRIDGE

Department of Zoology



Alumni Day 2018

Event Schedule

Saturday 15th September 2018

10:30	Lab Tours <i>or</i> Museum Stores Tour <i>or</i> Zoology Art Trail
11:30	Lab Tours <i>or</i> Museum Stores Tour <i>or</i> Rare Books Tour
12:30	Tour of Elementary Lab and discussion with Dr Tim Weil and Dr William Foster
13:00	Lunch (the Whale Café will be open)
14:00	<i>'Meerkats and Molerats: cooperating to survive'</i> Lecture by Professor Tim Clutton-Brock FRS
15:00	<i>What is this Beast?</i> Spots Quiz & answers
16:15	Tea, talk by Head of Department, a Tropical Field Course report, and an update by Dr William Foster (Director of Alumni Relations)

All tours start in Reception in the main Zoology building.

Please arrive with plenty of time to spare for your booked events so we can start promptly.

Keep up to date with Department news online:

Web:	http://www.zoo.cam.ac.uk/
Twitter:	@CamZoology
Facebook:	@ZoologyCambridge
Instagram:	https://www.instagram.com/camzoologyfield
YouTube:	https://www.youtube.com/channel/UCXqgenk2cx8xawB7OT66S5Q

- In case of emergency please contact Security on **01223 318318** –

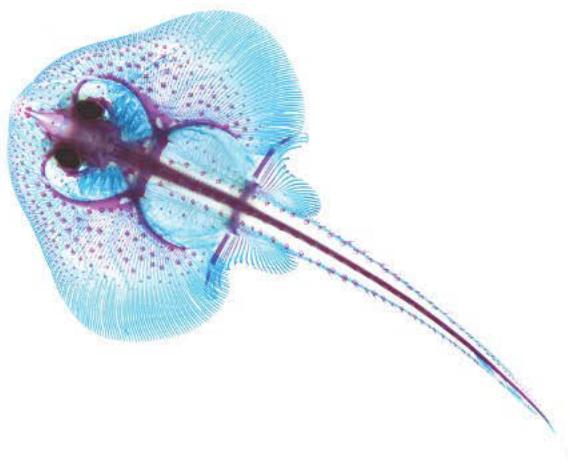
Dr Andrew Gillis

Royal Society University Research Fellow

3rd Floor, Main Zoology Building



The origin and diversification of vertebrates is an important chapter in the evolutionary history of animals. My lab studies this key evolutionary episode from a skeletal perspective: what are the developmental genetic mechanisms underlying the origin of the skeleton in vertebrates, and how have these mechanisms evolved to give rise to major skeletal innovations, like jaws and fins? To address these questions, we study the embryonic development of cartilaginous fishes (sharks, skates and rays). Egg-laying cartilaginous fishes, such as the little skate, provide a relatively simple model system for experimental studies of skeletal development, and are giving us unique insight into the early evolution of the vertebrate body plan.



Dr Andrea Manica

University Reader in Evolutionary Ecology

3rd Floor

David Attenborough Building



Andrea's research focuses on understanding patterns of individual movement, with an emphasis on disentangling its proximate mechanisms (e.g. grouping behaviour, territoriality, migratory behaviour, etc.) and its ultimate causes (e.g. fitness

benefits, selection in metapopulations). Work in the group can be split into three broad areas: the study of the costs and benefits of **individual movement strategies**, including their role in collective decision making;



the reconstruction of movement using **population genetics**, including the role of natural selection in allowing colonists to adapt to new environments; and the **spatial ecology** of

species interactions, including disease dynamics. Andrea's research often involves the use of mathematical and statistical modelling to make inferences from large ecological and genetic datasets, but he also have a dedicated laboratory to study fish shoaling behaviour and a number of field projects scattered around the world.



Dr Marta Costa

Project Team Leader - Drosophila Connectomics Group

Pt II Lecture Theatre, Main Zoology Building



Building a whole brain connectome using a fruit fly

Our group is working towards building the connectome of the adult fly brain, in order to obtain a comprehensive understanding of how sensory stimuli are processed and direct appropriate behaviour. We focus on the olfactory system, as fruit flies exhibit both innate (instinctive) and learned responses to smells. We are reconstructing these circuits using an electron microscopy volume of a whole fruit fly brain. Within it, it is possible to identify each neuron and each synapse, allowing us to build the circuits in a stepwise manner.



Paula McPhee

The works of art in the Department of Zoology span the past 150 years, and include sketches, drawings, paintings, etchings, prints, photographs and sculpture by well-known artists; zoologists who used their artistic skills to illustrate their research; as well as family, friends and colleagues of members of the Department. This year's Art Trail illustrates both the history of the Department and the research work carried out here in the past and the present, and showcases some of the most recent acquisitions, including the 2018 installation in the Whale Hall of Matt Lane Sanderson's Automaton Donations Box (*see below*), and the recently restored engraving of Charles Darwin, on display in the Balfour Library.

Explore the history of the Department through the images collected and donated by past and present zoologists.



Jane Acred

The Balfour & Newton Libraries have over 8,500 books, spanning the 15th to the 20th centuries, within their special collections. Many of these books belonged to Alfred Newton, the first Professor of Zoology in Cambridge. Newton was an ornithologist but his library contains books on a wide range of scientific subjects. Other notable collections are those that belonged to Hugh Strickland and Robert MacAndrew chiefly containing books on ornithology and conchology respectively. The library's collections include many varied and interesting items ranging from general zoological works to books on individual classes of animal as well as accounts of voyages of discovery to every part of the world.

The tour begins with a brief history of the library followed by an opportunity to view a small selection of some of the remarkable items from the collections. Books on display will include beautifully illustrated



volumes by John Gould and August Rosel von Rosenhof along with works by Darwin and Linnaeus. There will also be an album of carte de visite photographs which Newton compiled, some of which are accompanied by an example of the subject's signature cut from letters they wrote to Newton.

Tour of the Museum Stores

10:30/11:30

Behind the scenes tours of the newly refurbished Museum of Zoology basement stores, with Dr Jason Head, Curator of Vertebrate Palaeontology and Dr William Foster, Emeritus Curator of Insects



Tour of the Elementary Lab

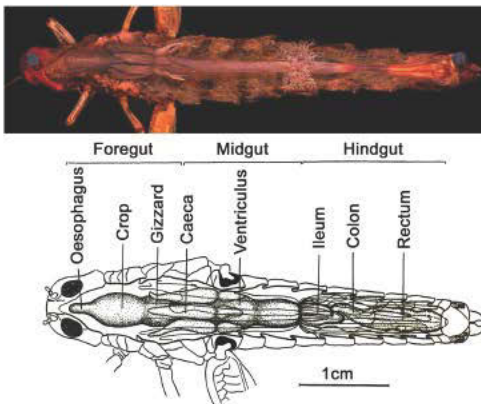
12:30

Dr William Foster, Deputy Head of Department (Teaching) 2003 – 2015

Dr Tim Weil, Deputy Head of Department (Teaching) 2017 – present



Tour of the various sections of the Elementary Laboratory to discuss continuity and change in the teaching of Zoology in the Department. We will discuss exciting aspects of teaching in the Department and welcome questions.



Revisit the place where you learnt how to use a compound microscope, how to dissect a starfish, sex a fruit fly, identify the posterior palatine foramen of a turtle skull, mix a PCR reaction, stain an embryo with beta-galactosidase, score sticklebacks feeding on daphnia and how to grind up a cabbage.

Meerkats and Molerats: cooperating to survive

Main Lecture Theatre



Professor Tim Clutton-Brock FRS

Emeritus Prince Philip Professor of Zoology and
Director of the Kalahari Meerkat Project.

Tim Clutton-Brock is a Director of Research in the Zoology Department at the University of Cambridge. His research has investigated the evolution of reproductive strategies, breeding systems and societies, the operation of natural and sexual selection and the regulation of animal populations. He has worked primarily with mammals including red deer, Soay sheep, meerkats and mole-rats. His current research focuses on the evolutionary causes and ecological consequences of cooperative breeding in animal societies.



What is This Beast?

15:00

This is a fun quiz, based on the Animal Identification Test that – back in the last century - used to be part of the Part II Zoology Examinations. There will be 15 specimens, including vertebrates, insects and other invertebrates, set out for you in the Elementary Lab.

Test your wits and identification skills by trying to work out what these animals are! There will be prizes in three categories:

- Zoology Graduates
- Other Adults
- 18 or under

At 15:45, three members of the Museum Curators Team will briefly reveal the identity of each specimen.



Dr William Foster
Curator of Insects



Dr Jason Head
Curator of Palaeontology



Dr Richard Preece
Curator of Malacology

Head of Department, Dr Howard Baylis, will present the prizes

Afternoon Tea

16:15

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

Listen to a short talk by Dr Howard Baylis, current Head of Department, about events in Zoology over the past year and the year to come.

Hear about the first Tropical Field Course (held in Panama in August 2018) from course leader Professor Chris Jiggins. Based in the Soberania National Park, it is a fantastic opportunity for our students to be exposed to the great diversity of international research that is being conducted at the Smithsonian Tropical Research Institute, as well as learning about the conservation challenges in the tropics. We are still looking for further support to ensure long-term continuity for this field course, and to ensure that all students can attend irrespective of their background.



Dr William Foster will talk briefly about fundraising and Alumni development.

Alumni Day 2019

September 2019
(date TBC in Autumn Newsletter)

Supporting Zoology at Cambridge

Can you help us achieve our vision?

The Department is home to a thriving community of scientists who share a fascination in how animals develop, function, interact and evolve. We take pride in our world-class, wide impact research and in our enthusiastic, high quality teaching. To achieve our vision of maintaining these high standards requires a sustained input of resources.

We seek support for a range of the Department's activities.

The Zoology Department Annual Fund

Regular donations can help us provide flexible support for specific projects that will not otherwise be fully supported by other agencies, including the Collegiate University. Resources will be allocated each year from the Fund, in response to individual applications. Contributions of any size or frequency are helpful and will make a difference. Here are some examples of projects that we would seek to support:

Vacation research support for undergraduates

- Funding for students at all stages of the tripos to experience research at first hand, supervised by members of the Department.

Bursaries for students to attend the Part II Tropical Field Course

- Bursaries ensure that all students have an equal opportunity to benefit from the course.

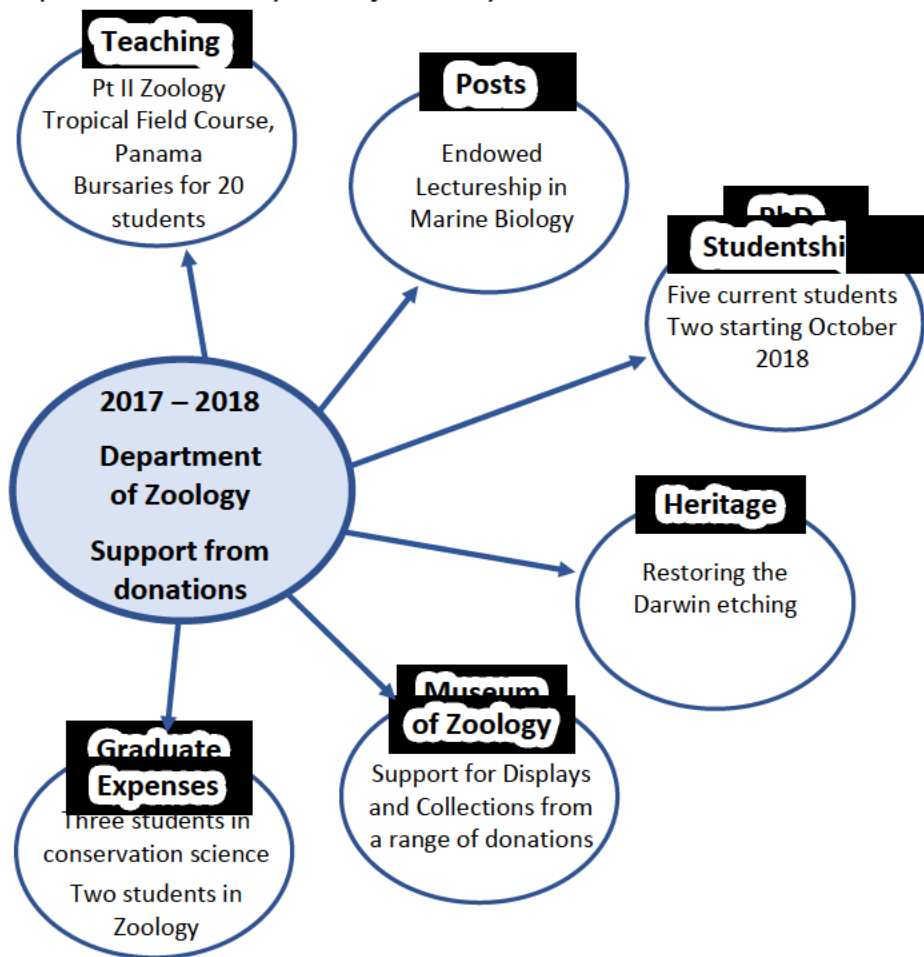
Supplementary funding for graduates, postdoctoral researchers and research fellows

- Travel funds for researchers to explore new horizons through visits to labs, museums, field sites.
- Funds to enable researchers to publish their work in the best open-access journals.
- Contributions to consumables and equipment to enable exciting new research.

Pilot fund money for researchers

- Financial support for researchers to develop novel projects, on which to build full-scale research applications

If you would like to support us by making a gift, of whatever size or frequency, we would be most grateful. If you would like to discuss how you might contribute to the Department, please contact Dr William Foster (mailto:waf1@cam.ac.uk), Director of Alumni Relations, who will be pleased to talk to you confidentially.





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

On Saturday 15th September 2018, between 10.00am and 4.30pm

10% discount on all shop purchases on presentation of this voucher

