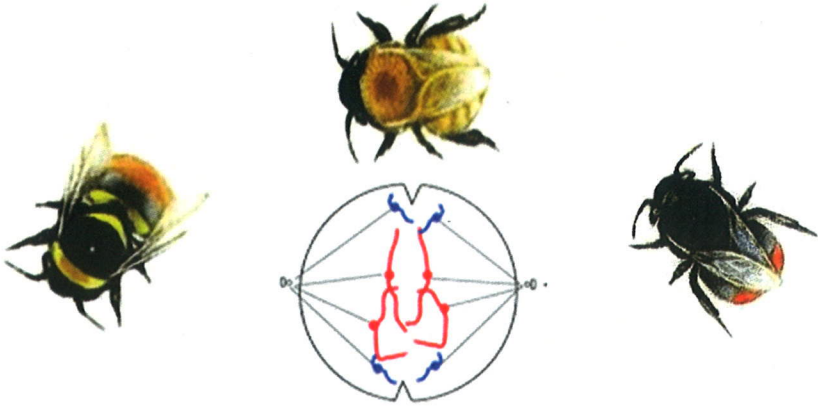
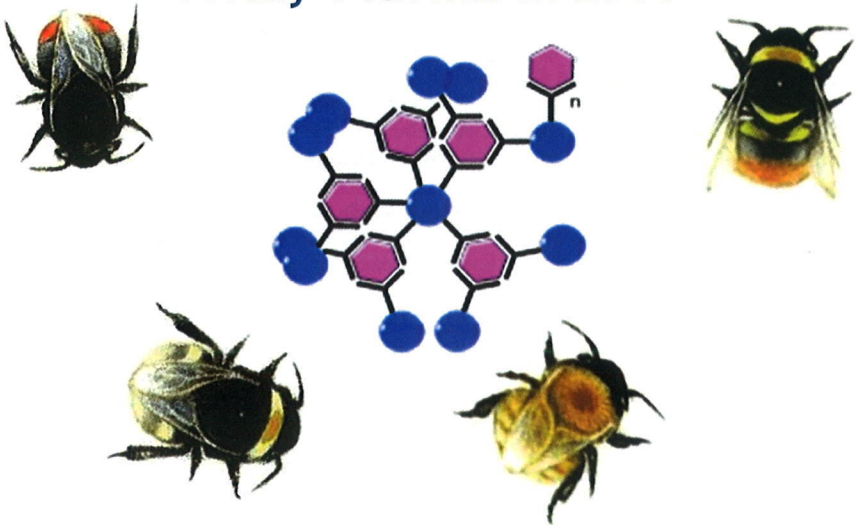




MILLFIELD Biology Symposium



Friday 14th March 2014





MILLFIELD Biology Symposium

Welcome to Millfield

Dear Delegate,

Welcome to Millfield's Annual Biology Symposium for sixth form Biologists. We hope that you find the experience rewarding and enjoyable. We are delighted to be hosting a programme which includes three distinguished lecturers, all of whom have kindly offered their time and expertise free of charge.

The map opposite is there for your guidance whilst on campus but please ask any of our sixth formers if you need any help. **Toilet facilities** are available both within the Chemistry department and the Dining Hall.

As a courtesy to the speakers, please be punctual when attending the sessions and make sure that all mobile phones are switched off and kept out of sight at all times! With lots of extra visitors on campus, in what is a normal school day at Millfield, we would appreciate your co-operation in observing standard school procedures, including a "NO SMOKING POLICY".

We hope that you enjoy the day and take an active role in discussion both here and on return to your school. May we also take this opportunity of extending our best wishes to those delegates taking exams this summer.

School Entrance

Science Lecture Theatre

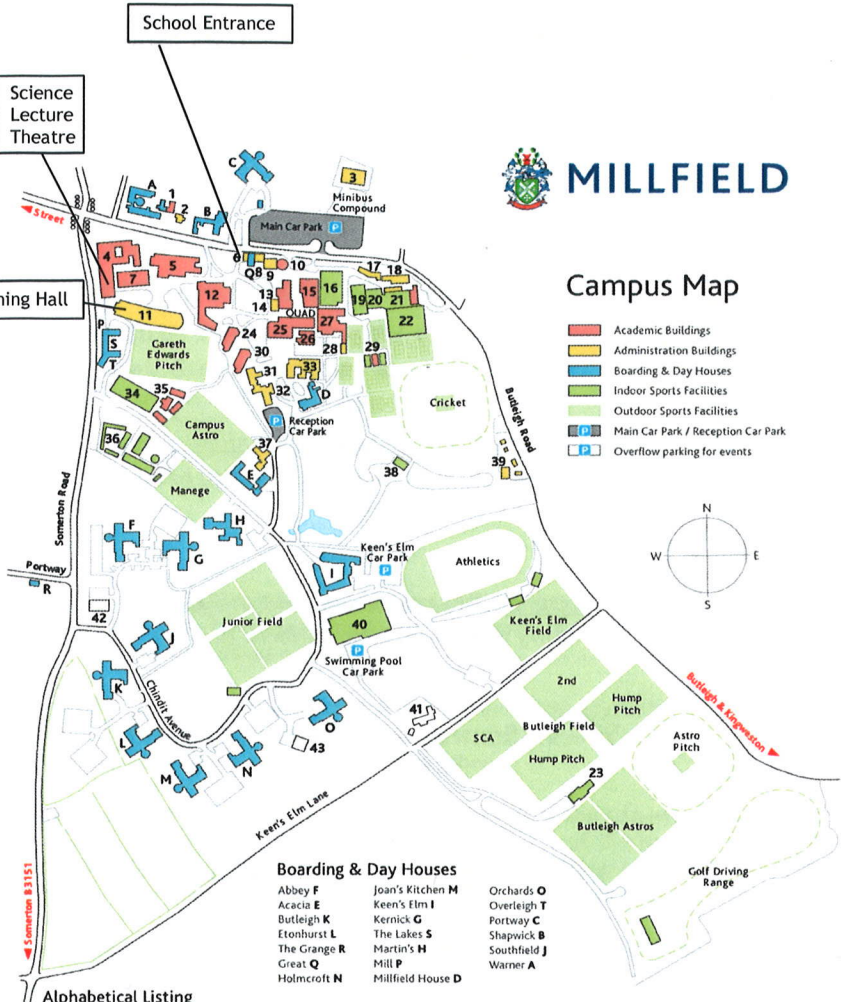
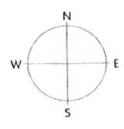
Dining Hall



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Campus Map

- Academic Buildings
- Administration Buildings
- Boarding & Day Houses
- Indoor Sports Facilities
- Outdoor Sports Facilities
- P Main Car Park / Reception Car Park
- P Overflow parking for events



Boarding & Day Houses

- | | | |
|---------------------|--------------------------|---------------------|
| Abbey F | Joan's Kitchen M | Orchards O |
| Acacia E | Keen's Elm I | Overleigh T |
| Butleigh K | Kernick G | Portway C |
| Etonhurst L | The Lakes S | Shapwick B |
| The Grange R | Martin's H | Southfield J |
| Great Q | Mill P | Warner A |
| Holmcroft N | Millfield House D | |

Alphabetical Listing

- | | | | | |
|--------------------------------------|---|--|---|---|
| A Block 24 | Deliveries 3 | Fine Arts Centre 15 | Mantell Pavilion 23 | Science Lecture Theatre, Biology, Chemistry and Psychology 4 |
| Atkinson Gallery 15 | Deputy Head's House 42 | Gaskell Room 11 | Maths Centre 12 | School Shop 8 |
| B Block 30 | Design & Technology 27 | Golf Academy 29 | Medical Centre 37 | Squash Courts 20 |
| Barracuda Sports Hall 19 | Development Office 6 | Grounds & Gardens 39 | Meyer Theatre 12 | S & T Blocks 35 |
| Bursary 33 | Dining Hall 11 | Headmaster's House 41 | Music School & Johnson Hall 25 | Staff Common Room 31 |
| Business & IT Centre 13 | E Block 29 | ICT Systems Support 14 | OM Society 33 | Staff Houses 43 |
| Careers & Higher Education 12 | EAL (English as an Additional Language) 26 | Johnson Hall 25 | PE Department 21 | Swimming Pool 40 |
| Cedarwood Exam Centre 1 | Enterprises 33 | Jubilee Sports Hall & The Junior Tuck Shop 16 | Physics 7 | Telephone Exchange 6 |
| Central Stores 3 | Equestrian Centre 36 | Judo Dojo 21 | Reception (Headmaster & Admissions) 32 | Tennis Centre 22 |
| Chapel 28 | Estates 18 | Laundry 17 | Riding School 34 | Travel Office 9 |
| Chaplaincy 2 | Fencing Salle 21 | Library & Audio-Visual Centre 5 | | Wilson Pavilion 38 |
| Dance Studios 10 | | | | |



MILLFIELD Biology Symposium

1.20pm Registration

1.35pm Welcome and introduction

1.50pm **Lecture 1:** Prof Alastair Goldman: *Studying Biological Sciences in Sheffield and finding a possible connection between sex and cancer.*

2.50pm **Lecture 2:** Dr Lorenzo Caggiano: *The Application of Chemistry in Biology - From Daffodils to Drugs*

3.50 - 4.15pm Break for coffee in the Dining Hall

4.20pm **Lecture 3:** Prof Dave Goulson: *Bumblebee Ecology and Conservation.*

5.20pm Symposium closes



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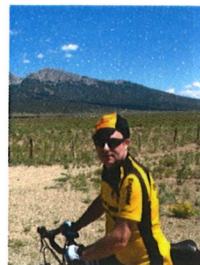
Studying Biological Sciences in Sheffield and finding a possible connection between sex and cancer.

Prof. Alastair Goldman

Molecular Biology and Biotechnology

University of Sheffield

<http://www.sheffield.ac.uk/mbb/staff/goldman>



Alastair is Head of Department in Molecular Biology and Biotechnology at The University of Sheffield. He undertook his first degree in Genetics at Queen Mary College in London in the early 1980s.

After a stint as a motorcycle courier in London and some travelling in South East Asia and Australia, he settled into his PhD research at East Birmingham Hospital, attached to Birmingham University Medical School.

Following successful completion of his PhD he moved to the USA where for nearly five years he worked as a postdoctoral research fellow at the National Institute of Health in Bethesda, Maryland. In 1998 he took up a lectureship in Sheffield and fifteen years later became Professor and head of department.

Alastair will recount his pathway to where he is, tell you a bit about his research and how it has developed over the years and teach you what he believes are the only 3 things you need to know in life - he says the rest you can work out for yourself (with a little reading and conversation).



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The Application of Chemistry in Biology - From Daffodils to Drugs.

Dr Lorenzo Caggiano

Pharmacy and Pharmacology

University of Bath

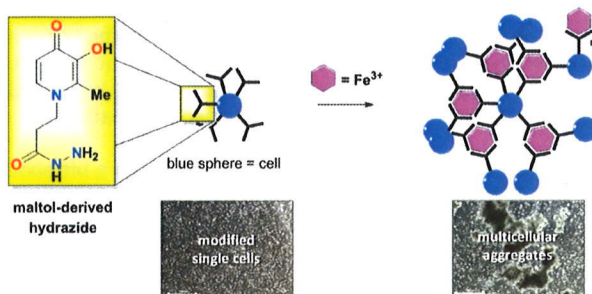
<http://www.bath.ac.uk/pharmacy/contacts/academics>

/lorenzo_caggiano/



Doctor Caggiano's research interests are in the rational design and efficient synthesis of novel biologically active compounds, with applications in cancer and other diseases. His group are also interested in the application of organic chemistry to biological systems and have developed a novel method for cell aggregation with potential applications in tissue engineering or as 3D tumour models. The presentation will give an overview of Medicinal Chemistry, and relate their latest research results to your current studies in both biology and chemistry.

The synthesis of a maltol-derived hydrazide (shown below) will be described which, once attached to a cell surface, induces rapid multicellular aggregation selectively in the presence of Fe^{3+} ions, which has potential applications in bioprocessing and regenerative medicine.



The rational design, synthesis and antiproliferative activity of various biologically active compounds and our synthetic approach to various analogues of natural products (*i.e.* narciclasine) will also be described.



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Bumblebee Ecology and Conservation.

Prof David Goulson

Evolution, Behaviour and Environment

University of Sussex

<http://www.sussex.ac.uk/lifesci/goulsonlab/>



Professor Dave Goulson was brought up in rural Shropshire, where he developed an early obsession with wildlife. He received his bachelor's degree in biology from Oxford University, followed by a doctorate on butterfly ecology at Oxford Brookes University.

Subsequently, he lectured in biology for 11 years at the University of Southampton, and it was here that he began to study bumblebees in earnest. He subsequently moved to Stirling University in 2006, and then to Sussex in 2013.

He has published more than 200 scientific articles on the ecology and conservation of bumblebees and other insects. He is the author of *Bumblebees; Their Behaviour, Ecology and Conservation*, published in 2010 by Oxford University Press, and of the *Sunday Times* bestseller *A Sting in the Tale*, a popular science book about bumble bees, published in 2013 by Jonathan Cape.

Goulson founded the Bumblebee Conservation Trust in 2006, a charity which has grown to 8,000 members. He was the Biotechnology and Biological Sciences Research Council's Social Innovator of the Year in 2010, was given the Zoological Society of London's Marsh Award for Conservation Biology in 2013, and was elected a Fellow of the Royal Society of Edinburgh in 2013.



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