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The MOAC and SysBio Newsletter

6th August 2007

Beside the lake, beneath the trees...

– 'Elbows'

With each year comes the certain inevitability of the annual MOAC conference, like the milk of life dripping slowly into the teacup of destiny. For 2007, we headed for the Lake District in all its glory. Think *Swallows and Amazons*; think Kendall mint cake; think Beatrix Potter and Alfred Wainwright; think *Withnail and I*.



A group of students by Lake Grasmere

A consequence of the increasing student cohort was the provision of better transportation than of old. We were treated to an air-conditioned coach rather than the usual minibus. This proved to be a much-welcome relief from the noisy, rattling, diesel fume impregnated travel offered by the latter. The experience was somewhat marred by one's feelings that the coach driver harboured a slight disdain for us, if his somewhat patronising and authoritarian tone on the return journey was anything to go by. I thought perhaps there was a misapprehension that we were rowdy high school students rather than the well respected, learned scholars that we are.

We decamped to the venerable youth hostel at Langdale; a somewhat impressive Victorian abode nestled at the foothill of Loughrigg, replete with extensive gardens and several shrubberies which were, interestingly enough, on two levels and had a little path running down the middle. As befitting such a house, it was steeped in grandeur and we were treated to large spacious rooms with high ceilings and the remnants of Victorian decoration. Whilst there were signs of wear and tear, the place more than made up for this with character and a sense of history that pervaded through the YHA painted walls.

The conference began with all the MSc students giving a talk about their work followed by a poster session in

the evening which, thanks to the somewhat generous alcohol budget, was quite relaxed and informal. During the following days, we had several sessions focussing on time management and some of the career options open to PhD students in both academia and industry. This

was tailored towards the students from the very first MOAC cohort who finish this year and will see all their hard work come to fruition. On the flip side, they will sadly no longer be attending MOAC conferences, which I'm sure will bring a tear to each of their eyes.



Working in groups on the time management workshop

An irony of the conferences is that the locations offer such marvellous vistas as to make one long to go exploring rather than sit indoors. Thankfully, there were numerous opportunities to get back to nature.



Rambling through the countryside

Given our surrounding, it would be a terrible omission to not discuss something of what the Lake District has to offer. Friday afternoon was scheduled free time, so Ben and I deemed this a most suitable opportunity to go for a long ramble. We initially attempted to

scale Loughrigg Fell. The rise to the summit was deceptively steep, requiring the negotiation of a stone staircase cut into the hillside.

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Editorial

The end of the academic year is approaching and with it come changes to welcome in the new. The 2006 intake no longer feel like fish out of water, but are no doubt preparing themselves for the challenge of teaching the 2007 intake the best strokes with which to negotiate the choppy waters which will be their first year. The successful inaugural year of the MOAC SSLC and novel initiatives being put in place for the new year will definitely ease their journey.

This is also the time for showcasing one's research and a multitude of conferences were added to our timetables. With the dubious weather we have been experiencing this summer, many of us were pleased to experience some new surroundings, if not sunnier climes. Once again, workshops added some glamour to our ordinary routine and possibly the discovery of an ability or two of which one was unaware.

With the re-application for funding and the review of MOAC approaching, it is fair to say MOAC is definitely a positive addition to the scientific community.

- Lahari de Alwis

Announcements

Prof. Colin Robinson has handed over his position as director of the Systems Biology DTC to Dr Vicky Buchanan-Wollaston.

Her research interests are plant senescence and plant signalling networks. She is based at Warwick HRI.



Previously, Prof. Georgy Koentges joined the Systems Biology department as a co-director.

We wish them both success in their endeavours. We also hope Colin will remain involved in the DTCs and wish him well in his future ventures.

📅 An online MOAC calendar has been launched and is accessible at <http://www2.warwick.ac.uk/fac/sci/moac/currentstudents/calendar/>.

📅 Those of you interested in trying to recreate some of the treats you had at the cake days now have access to some of the recipes at http://www2.warwick.ac.uk/fac/sci/moac/news_events/cake_day/. Contributors to cake day, please email your recipes to MOAC2@warwick.ac.uk.

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Clambering up Loughrigg fell

Fancying a more comprehensive hike, we espied the town of Ambleside down in the valley and decided to head there. Given the isolation of the youth hostel, getting to the nearest town meant travelling for several miles. The route was much longer than anticipated and involved traversing several peat bogs, the result of which left my shoes in a somewhat sodden state. After two hours of scrambling, we finally made it down to the town where we took a well earned rest. We were rather partial to having a cream tea, but despite it being a bank holiday, all of the tea shops were closed, so we were resigned to having a drink in a pub, much to our consternation. Once recovered and suitably imbibed, we set off for the return journey where bogs and wet feet also featured prominently. We eschewed going back using the same route and instead opted for what we considered a more direct

We ambled up at a good speed even managing to jog in some sections, completing the ascent in about 30 minutes.

path. It turned out that this too was somewhat less than direct, although rather more entertaining, with the ramble being punctuated by the scaling of stone walls and wire fencing, as befitting daredevil country explorers such as ourselves.

Saturday afternoon was a much gentler affair with a pleasant stroll down to Grasmere via its namesake lake. This offered the opportunity to go paddling, although the stony shoreline was not particularly forgiving on one's feet. However, the feeling of cool water lapping at our ankles as we basked in sunshine was delightfully relaxing and invigorated all those who partook. Grasmere is not just famous for its waters; Wordsworth lived on the lake front and composed many a poem there. His family have graves in the town's churchyard for those who are interested. The town also boasts a fine gingerbread emporium whose wares I can heartily recommend once you have grown sick of eating Kendall mint cake (you're in the Lake District; it's the local delicacy; you've got to eat it. It's the law).

The conference came to a nice conclusion on Sunday with a pleasant lunch in the garden before we bid our farewells to this picturesque land and headed back to the drudgery of Coventry.

Photographs from Lahari, Mike and Stuart.

News

§ Industrial Mentor Scheme

MOAC has initiated a scheme which encourages students to form connections in industry. The aim of this scheme is to help students gain some insight in to working in industry and also as an aid to recruitment for the companies involved.

Alistair, Jon and Nacer have been developing the scheme with Ian Nussey, an external advisor to MOAC, and have assembled a list of mentors from various companies and fields. The idea is to assign students to mentors, who will then have informal one-to-one career-related discussions approximately once every six months. It is hoped that this will lead to the formation of a bilateral relationship of mutual advantage.

The organisers ask that you visit the following website and select a mentor of interest to you. This list consists of those who have currently agreed to be mentors and more are expected to be added soon.

<http://www2.warwick.ac.uk/fac/sci/moac/transferableskills/industry/mentors/>
(The site requires a Warwick University login.)

If you wish to travel to visit your mentor, MOAC will cover expenses. For any further information, contact Abdnacer Bouchekhima, Alistair Irvine or Jonathan Armond.

§ Transferable Skills Certificate

From October 2007, our transferable skills programme will be formalised in to a Postgraduate Certificate, namely the Warwick Interdisciplinary Science Postgraduate Certificate in Transferable Skills.

This will include skills in the areas of teamwork, scientific communications, networking, conference organisation, lab organisation and budgeting, amongst others.

This step will provide students with an official representation of the workshops attended throughout their PhD and the numerous activities undertaken as members of the DTCs, making inclusion in job applications easier and bolstering your CV. The certificate will involve keeping a portfolio of everything that qualifies as a transferable skill. A meeting will be held in September to discuss further details.

Calendar – Useful Dates for the near future

2007

September 18th – EPSRC site visit

October 1st – Start of Autumn Term 2007/2008

MSc mini-project presentations

MOAC students will be giving talks on their final mini-project.
Systems Bio students will be presenting posters of their work.
The external examiner will be present.

December 8th – End of Autumn Term 2007/2008

SCIENCE FOR THE MASSES: LEARNING THE ROPES

– Gemma Warren

At the beginning of July, the 2004 cohort descended on the capital to attend a 'Scientific Communication Course' at Imperial College with the CBC and White Rose DTCs. After hearing about it from the 2003 students, most of us were looking forward to playing with cameras and recording equipment. The course was conducted by Gareth Mitchell, who, as well as being a lecturer in the Scientific Communication Group at Imperial, is a science journalist, presenting 'Digital World' on the BBC World service and reporting for other science programs on BBC Radio 4.

We began with an introduction to science in the media, with examples showing us just where reporters obtain their information. There were plenty of examples of poorly-sourced articles and it made you realise just how stories can



spiral out of control when not properly researched.

Afterwards, we split up into three groups to prepare for the rest of the course which included a simulated press conference, news reports for TV and radio, and a 'live' radio show recorded at the BBC. We had already been given the topics: Space Tourism, Hospital Hygiene and the HPV Vaccine, so we'd had a little time to do some research. Roles for the tasks were quickly allocated and the topics were briefly discussed before heading off for a meal in a nearby restaurant.

The next morning brought the press conference, with three members of each group taking on various roles; briefing the press about their topics and answering sometimes quite difficult questions from the 'press pack', consisting of the rest of us. After this, we finally got our hands on all the recording equipment to make our radio and television news reports. This saw us dashing off to 'exotic' locations on the Imperial campus to record interesting backgrounds and bits of b-role for the TV clip, and finding the quietest place possible for the radio interviews.



Once we recorded everything we needed, we had a talk on scientific writing by Jon Copley. As a scientist and journalist, he had the benefit of working in the two different fields and gave some interesting examples of good and bad writing from both sides.

On Thursday morning, we had the challenge of editing our news reports in just one hour each. Fortunately, we didn't have to do it ourselves and had professionals manipulating the software. It was quite interesting, if not a little concerning, to see how all the little coughs, mumbles and mistakes could be corrected to make people say exactly what you want.

Once the editing was over, we had the rest of the day to get organised for the final task; recording a 'live' 20 minute radio show at BBC Bush House. This was possibly the most challenging task, but we had a bit more freedom to be inventive. The afternoon was spent busily recording and editing short pieces to include in the show, before braving the rush hour on the tube to get to Bush House. As soon as we got there, my group was shown into our recording studio where we had about 20 minutes to set up before recording began. Apart from a few technical problems, all three groups completed the task well, with Group A and group B making magazine style science shows, and my group deciding to do something a little bit different. All the recordings from the course will be available on the MOAC website soon. They are worth listening to, if only to laugh at my Somerset accent.



This was definitely an interesting course and I learnt a lot more about science in the media. As you will see from the recordings, I also learnt that I am not very good behind the camera, but quite good at a Somerset accent!

Photographs by Yi Chan

OUR MAN IN CHINA

– James Sinfield

Reporting from the Computational Neuroscience Workshop in Shanghai

Having decided to blow my entire PhD travel budget on a single trip to the Orient, I was determined to get the most, academically and culturally, from the experience. Here I hoped to meet leaders in my area of research and see a part of the world that is as foreign to my life in the Midlands as it is possible to imagine.

My destination: Shanghai – previously home to prostitutes, drug-addled sailors, gangsters, imperialists, and criminally overzealous communists. I was determined to see how many of these I could find.

My first experience in China was a taxi-trip from the airport and Shanghai is one of the few cities where the cab drivers won't try to rip you off. First, you encounter industry in the form of countless construction vehicles, the function of which I can only guess. This eventually gives way to the seemingly endless housing projects, anonymous and dense, and then the city emerges over the horizon. Entering the city by car affords some of the best views by virtue of the elevated highways. The growth of Shanghai is truly unimaginable to European sensibilities and the sheer scale of it is mind blowing. There are high rise buildings everywhere, like Manhattan only fifty times bigger. Where does all this concrete come from? The hotch potch of Godzilla scale buildings has sprung up only since the '90s so inevitably the quality is varied, from beautifully constructed symmetrical temple-like towers to modernist nightmare eyesores. The overall effect is undeniably awesome.



No account of China would be complete without mentioning the food. I must admit to not being the biggest fan of Chinese cuisine, certainly not the gloopy, MSG heavy variety we get here in England, anyway. I always ate as authentically as possible, eschewing safe options such as readily available western fast food, in favour of the steamy underground dens, possibly someone's

living room, possibly a restaurant, billowing steamy treats onto the wet pavement. I found much delicious street food and one sit-down meal which consisted entirely of offal. Hearts, feet, blood and cartilage. On the next table, diners held chopsticks in one hand, a cigarette in the other, furiously alternating their sucking with their chewing.

My favourite venue served a Sichuan speciality, basically chicken soup cooked on a camping stove at your table; you throw in veggies of your choosing. Hot, messy and wonderful. I became quite a feature in this place: the strange Englisher who struggles with chopsticks. However, this quest for authenticity was my downfall when I contracted a nasty bout of food poisoning.

Whilst in bed lamenting my ill health, in between visits to the toilet, I discovered the joys of Chinese TV: a heady mixture of sport, kung-fu and drama I thought I could comprehend until one of the protagonists would inexplicably turn into a pig. I can heartily recommend the cartoon channel, which shows propaganda films from the 1960s, where young, brave and handsome communists overcome mean-looking bearded feudalists.



I suppose I should at least mention the conference. Alas, many of the speakers I went to see didn't turn up and the conference was seriously overcrowded, with gatecrashers outnumbering the delegates 2:1. This meant that the facilities were groaning under the weight of the extra bodies. There were a number of good and a few great speakers, notably John Rinzel and Konrad Koering, speaking about theoretical neuroscience and psychophysics, respectively. The hierarchical nature of Chinese society meant that organizers separated the speakers and the students in a queer form of educational apartheid, resulting in few opportunities for interaction with the speakers.

At least, I had plenty of opportunity to walk the streets of the city. This I found to be an assault to the senses. The smells of excrement, drains, and food; the sounds of car horns, hustlers and the clatter of construction: the sights of old poverty, new wealth, prostitutes, Tai Chi tramps and communism. This all amounted to an unforgettable experience.



DNA, DRUGS AND DINOSAURS

MY FIRST MULTITUDINARY, MULTIDISCIPLINARY, MULTICULTURAL CONFERENCE

– Raul Pacheco Gomez

The 6th European Biophysics and British Biophysical Society Congress took place from the 14th to the 18th July at Imperial College, London, coinciding with the university's Centenary Anniversary.

According to the definition given by wikipedia, *Biophysics is an interdisciplinary science that applies the theories and methods of Physics to questions of Biology.* According to the same definition, *Biophysics comprises a lot of specific biological studies*, and that is exactly what the conference comprised. With more than 800 delegates from more than 50 countries, 780 posters and 150 oral presentations, this was a very good opportunity to hear about new developments, new achievements and very good interdisciplinary science. The topics of the congress were day-specific and covered single molecule mechanisms, RNA structure and function, lipid biophysics, membrane protein folding, multiscale simulation and even macromolecular assemblies, drug delivery, live cell imaging of protein-ligand interactions, ion channels and cancer, and disordered and aggregated proteins.



The Scientific Programme started on the 14th of July with the young biophysicists' satellite meeting. This was a very good opportunity to meet young scientists and discuss science in a debate entitled "Will our understanding of Biology be dominated by theory or experiments?" The meeting was followed by a welcome reception and a plenary lecture by Nobel Prize winner Professor Sir John E. Walker (Chemistry 1997), who talked about *Oxygen, life and energy conversion*.

A plenary lecture started and introduced the day-specific scientific programme for the morning sessions. This was followed by three parallel sessions, a poster session and exhibits during lunch time and three more parallel afternoon sessions. Although the scientific programme left little room for extra activities, I spent some time discovering the surrounding areas. A visit to the Science Museum and the Natural History Museum, which were literally around the corner, was a must. I really enjoyed the congress concert and the congress dinner, which took place in the central hall of the Natural History Museum under a Diplodocus dinosaur skeleton!

Overall, the congress was a fantastic opportunity for me, as a 3rd year multidisciplinary PhD student, to broaden my knowledge of science in general, get more in depth knowledge of my specific area, start thinking about the new challenging biological questions of the future, meet the real names behind the papers and, of course, enjoy London!

Finally, congratulations to Matt, from my lab, on winning the poster competition!



SSLC REPORT

– Yi Chan

New SSLC Committee

The new MOAC/SB SSLC committee for the academic year 2007-2008 was elected at the annual MOAC conference:

Academic convenor:	Ann Dixon
Chair:	Hayley Morley
Secretary:	Daniel Bearup
2003 rep:	John Grime
2004 rep:	Martyn Rittman
2006 rep:	Howard Lightfoot
2007 rep:	TBA
SB academic:	Katherine Denby
SB rep:	Andrew McCarthy

No representative for the 2005 cohort was assigned since both the Chair and Secretary belong to this cohort.

PhD Guidelines

One of the main agenda items discussed at the last SSLC meeting concerned MOAC PhD thesis guidelines.

In particular, there was a demand for example theses as the first cohort look toward the end of their PhDs. There will be one internal examiner and one external examiner for PhD vivas.

With regards to thesis structure and writing style, the SSLC recommends discussion with your supervisor(s). If there is insufficient advice, then seek the MOAC Director for advice.

Currently, University guidelines on thesis regulation are available at <http://www2.warwick.ac.uk/services/academicoffice/ourservices/gsp/resources/planner/>.

Exams too easy?

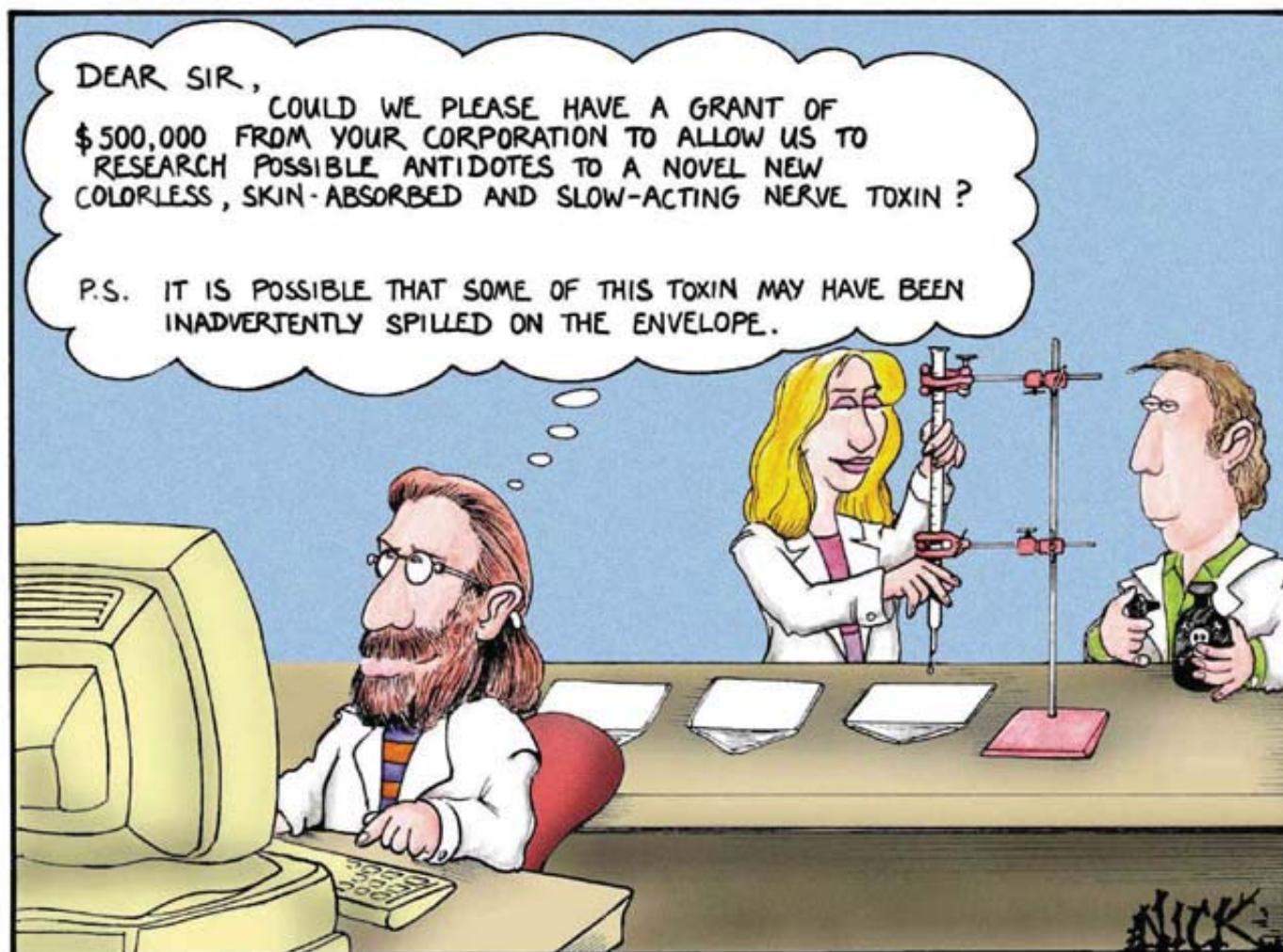
It is believed that some particular examinations were too easy. As with previous years, feedback forms should be filled in and given back to the examiners.

The SSLC website has also been updated with all available minutes and actions.

(See <http://www2.warwick.ac.uk/fac/sci/moac/currentstudents/sslc/>)

As our final-year students prepare to apply for grants and positions to further their research, here is a helpful hint.

Taken from <http://www.nearingzero.net/> by Nick Kim.



Accomplishments

Published articles:

As reported in previous editions of the newsletter, the papers in press can now be found in the following publications.

- 📖 "Evolution of gene overlaps: relative reading frame bias in prokaryotic two-component system genes"
– Peter Cock et al.
Journal Of Molecular Evolution, 2007, **64**(4).
- 📖 "Pigment composition and adaptation in free-living and symbiotic strains of *Acaryochloris marina*"
– Yi-Wah Chan et al.
FEMS Microbiology Ecology, 2007, **61**(1).
- 📖 "On finiteness of multiplication modules" – Hashem Koohy
Acta Mathematica Hungaria, 2007.

Other achievements:

This term has been one of triumphs in the field of poster competitions for many MOAC students.

- 🏆 Daniel Bearup won a prize for the poster he exhibited at the joint DTC conference held at Warwick.
- 🏆 James Sinfield won the overall prize at the Warwick University Postgraduate poster competition, and progressed through to the regional finals of the competition, with his poster titles "Fear and Loathing: On building a Model of the Amygdala".
- 🏆 Also progressing through to the regional finals were Antony Holmes with "Understanding Myxobacteria Motility: Modelling Behaviour" and Mike Li with "Chloroplast Protein Targeting".
- 🏆 The Biology Postgraduate Symposium was also a success for MOAC students based in biology with Antony Holmes, Gemma Warren and Yi Chan winning poster prizes and Sam Robson winning a prize for his presentation.
- 🏆 Gemma Warren and Yi Chan won poster prizes at the Life Sciences Interface joint DTC conference in Edinburgh. This conference included entrants from 6 different DTC located throughout the UK.
- 🏆 Peter Cock gave a talk at the 8th annual Bioinformatics Open Source Conference (BOSC 2007) in Vienna, on behalf of the Biopython project.
- 🏆 Adair Richards and Peter Cock were placed joint 3rd in Warwick's 2007 ePortfolio Awards Competition.

Their entries can be found at www2.warwick.ac.uk/fac/sci/moac/currentstudents/adair_richards/ and www2.warwick.ac.uk/fac/sci/moac/currentstudents/peter_cock/

Outside the academic arena...

- ★ Howard Lightfoot captains this year's Warwick University Challenge team.

Watch their first round performance against Lucy Cavendish College, Cambridge on the 20th of August at 8pm on BBC2.

