Welcome to ChemUCL!

It is a pleasure for me to introduce the 2010 newsletter. I hope it has been a productive and enjoyable year for all of you. I have taken over as head of department from Professor Steve Caddick as of the 1st of May. I am sure you would like to join with me in thanking Steve for his work as head of department for the past two and half years. Steve will still continue his research in the department but has taken over as UCL Vice Provost for Enterprise.

There are lots of exciting updates in the following pages that cover every aspects of the life in the department. In particular at the time of writing our new intake for both undergraduates (120+) and postgraduates (60+) is significantly above anything the department has managed to achieve in the last thirty years. The quality of the students is again suitably impressive with for example, the first 70 undergraduates getting as a minimum AAA at A-level. Furthermore there is a veritable forest of the new A* A-level grades across the intake.

The department has also undergone a face lift over the last month with the front entrance being completely remodelled, including a new full glass fronted entrance, new card access and, although not quite to my taste, a very vivid colour scheme.

I look forward to seeing many of you at the Lab Dinner.

Best wishes

Ivan P. Parkin, Head of Department

LAB DINNER 2010

The annual Lab Dinner will be held in the Old Refectory on Friday 26th November 2010

The provisional programme is as follows:
16.00  Afternoon tea in the Nyholm Room
17.00  Pre-dinner lecture by Dr Andrea Sella, Ramsay Lecture Theatre
18.15  Pre-dinner drinks in the North Cloisters
19.15  Dinner in the Old Refectory, speaker: Prof. Robin Clark
23.00  Bar closes.

If you are coming to the dinner, please complete the enclosed form and return it with a cheque for £42 per ticket (£32 for current students) to:

Miss Judith James, The Lab Dinner, Department of Chemistry,
20 Gordon Street, London, WC1H 0AJ

by Monday 8th November. Confirmed details of the dinner will be sent out with the cheque acknowledgement.
Promotions

Claire Carmalt has been awarded the post of Head of Inorganic, Wendy Brown will replace Claire as Graduate Tutor.

Helen Hailes has been elevated to the rank of Professor and Furio Cora to Reader of Computational Chemistry.

Goodbyes...

Alex Lewis and Adam MacKay have left the department this year; we wish them every success in their future endeavours.

Glen Greaves is retiring this year after many years of dedicated service in the teaching labs. Glen’s excellent organisation of the Turner Lab has meant that the undergraduate labs have run smoothly and undergrads, demonstrators and staff alike were kept on the straight and narrow. We would like to wish Glen well in his retirement.

News and Awards

Professor Angelos Michaelides has been awarded the 2010 Marlow Award of the Royal Society of Chemistry (RSC) for his work in surface and physical chemistry. The Marlow Award is given annually in “recognition of the most meritorious contributions to physical chemistry or chemical physics”. Professor Michaelides’ citation reads “For his innovative contributions in broad areas of surface and physical chemistry, with particular relevance to heterogeneous catalysis and improved understanding of the water-ice interface”. The Award consists of a medal and cash prize. On receiving the award Michaelides commented “Our work seeks fundamental new understanding of processes at surfaces, with a particular emphasis on water interfaces. It is very nice to win the Marlow Award in recognition of the hard work put in by our team and collaborators.”

BiCE Team UCL, with Dr Helen Hailes in Chemistry as the Team Leader, has been awarded the 2010 Rita and John Cornforth Award of the Royal Society of Chemistry (RSC) for the use of key chemical biology and synthetic skills, interfaced with molecular biology and process engineering to achieve stereoselective enzymatic synthesis with potential for industrial scale-up.

Dr Mike Porter received the Provost’s Teaching Award this year.

Professor Peter Coveney has been allotted time on the fastest supercomputer in Europe by the Partnership for Advanced Computing in Europe (PRACE). Professor Coveney’s research group has been awarded 17 million core hours to apply a novel methodology that efficiently utilises high-powered computers to study turbulent fluids. The challenge of predicting the properties of turbulent fluids is sometimes hailed as the last great unsolved problem of classical mechanics. It is of practical relevance in areas as diverse as weather forecasting, transport and dispersion of pollutants, gas flows in engines, blood circulation and cosmology.

The UCL Chemistry department had its first paper published in Nature Chemistry this year. The paper featured an exciting recent discovery by Vijay Chudasama, Richard Fitzmaurice and Stephen
Caddick who have unearthed a new way of making carbon-carbon bonds using air as a reagent. Andrea Sella was re-awarded an EPSRC Media Fellowship; we all look forward to seeing Andrea creating more bangs, flashes and smells on television over the coming years.

Big Grants

A UCL Chemistry consortium of Nora de Leeuw (PI), Graeme Hogarth, Katherine Holt, Jawwad Darr, Richard Catlow and Eric Fraga (ChemEng), has been awarded more than £1.1M by EPSRC under their third Grand Challenges call on Nanotechnology: Solutions for the Environment, to work on “Bio-inspired (Fe,Ni) S nanocatalysts for CO2 conversion”. The project is in collaboration with Brian Balmer at UCL Science and Technology Studies and a team from Johnson Matthey, including Sankar and Glenn Jones, our existing and newly appointed Royal Society Industry Fellows with Johnson Matthey.

Dr D Caruana was awarded £251,564 from the Bright IDEAS Award to study Plasma-olyte.

Professor JRG Evans was awarded £161,472 from the Bright IDEAS Award to study The Clay Aeroplane – Step One.

We have two new Fellows starting in the department this year, Martijn Zwijnenburg was awarded £714,371 by the EPSRC for a Career Acceleration Fellowship to study “Elucidating the Photochemistry of Inorganic Nanostructures”. Mark Crimmin will also be joining the department; he received a Royal Society University Research Fellowship.

Postgraduate Prizes

The 2010 Ramsay Medal was awarded to Laura Fenner (supervisor Dr Andrew Wills) for the talk entitled ‘Frustration in the Itinerant Ferromagnet Fe3Sn2’.
Undergraduate Prizes

DEAN’S LIST 2009

Sacha Noimark  MSci Chemistry with Mathematics
Martin Bachman  MSci Medicinal Chemistry
Qing Teo  BSc Chemistry

Jackson Lewis Scholarship 2009

Katarzyna Hojczyk  BSc Chemistry

Ronald Nyholm Prize  – SKIPPER CVJ

Parke Davis Prize  – WU L

Harry Poole Prize  – JENSEN AR

Neil Sharp Prize  – SKIPPER CVJ

Franz Sondheimer Prize  – WU L

Charles Vernon Prize  – WU L

Tuffnell Prize  – SKIPPER CVJ and CHUDASAMA V

Bader Prize  – Kaliogirou A

Ronald Gillespie Prize  – No Award

C.K. Ingold Prizes:  – VALE J,
TAN CY,
KOSSEN H,
HOJczyk KN,
TEO QCE,
BERNAT M,
TRAN TM,
Brooks-Bartlett M,
NOIMARK SM,
BACHMAN M,
PLUMMER D
A New Entrance and Security System for UCL Chemistry

As of the start of September 2010, the Christopher Ingold Building is resplendent with an entirely remodelled entrance foyer. No longer are the heavy manual pull doors in operation, but a double set of sliding automatic doors admit us. Inside the foyer, we pass through a specially illuminated lobby area, and entrance to the building is through card operated security gates, installed within the foyer hall which is now reinstated to its original, impressive, width. Our security guards have an entirely new desk built within what was formerly the Ramsay Lecture Theatre bookstore. Access to the lecture theatres is separated from that to the rest of the Chemistry Department – a glass screen closes off part of the stairwell and automatic doors allow access beyond the ground floor for chemists only. This arrangement not only gives us a significant improvement to the security of the building and to the chemistry areas, but also represents the most comprehensive renovation and upgrading of the reception area since the building was first opened in 1970. The new foyer is an inviting and bright modern space, with new lighting and splashes of colour that evoke some of the very chemicals we use on a daily basis. Chemical apparatus is also represented on the glazed screens and doors, and the front fascia board is iridescent, representing colour changes which are at the very heart of chemistry. We hope that the new foyer will surprise and delight our new and returning students as well as visitors to the Department, and we look forward to welcoming you in.

David Rowley.
Despite the recession, with tightening budgets, the Chemical Physical Society has had another cracking year with a full schedule of lectures and events. Tea has been drunk, minds have been enlightened, careers presented, alcohol consumed and sport and quizzes played.

The lecture series took off with the traditional demonstration lecture from Dr. Sella with its usual phutts, bangs and ‘oh pretty’ noises. Hopefully he will be back for more of the same next year perhaps ‘Another shade of green’ (it is my favourite colour). We then flew through a diverse range of topics from electrochemistry to the psychology of numbers and speakers from those previously unknown to the department to the famous Prof. Atkins (yes the one who wrote that book). We finally landed with the Presidential lecture, which interestingly began with the talk statistics for the year.

The lecture series was interspersed with other social events to suit most tastes. Early in term 1 was the careers’ evening. Like lambs to the slaughter individuals gave short talks on their careers before being plied with wine and interrogated on all those points which they failed to mention by CPS members. Next year a teacher, patent solicitor and accountant have all been persuaded to face the gauntlet. The climax of term 1 was the Christmas quiz. This was booked up rapidly in less than 3 days and also featured a new fancy dress competition. There was groaning, consternation and laughter at the questions and the best costume was Jesus in his crib. After exam blues was countered by the CPS Sports Day in term 3. This year there was a change of venue as we moved to the more convenient Regent’s Park. Regrettably you cannot escape the British weather but would it be CPS Sports Day without some rain? To get to know one another with loosened tongues and minds these were interspersed with pub crawls. Some eagle eyed individuals may already have noticed but the boards listing the CPS presidents in the Chemistry Lecture Theatre have been updated and the piece of paper obscuring Andrea Sella’s name (a memento of a half forgotten joke) has been removed.

Looking forward to the next year we say goodbye to Susan Perkin as CPS President and Russell Binions steps up to the mark. The rest of the committee members are geared up and ready to go, the first term of lectures are booked and we look forward to welcoming in new members in September.

Claire Skipper
A molecule’s eye view of water

A team from UCL Chemistry, Physics and Astronomy departments, the London Centre for Nanotechnology and the Thomas Young Centre took part in the 2010 Royal Society Summer Science Exhibition. The stand, called “A molecule’s eye view of water”, showcased some of the world-leading research going on at UCL into water and ice on the nanoscale. Topics such as ice nucleation, water and climate change, and high pressure phases of ice were explained to the public. To do this we made an interface for the visitors to use the UK’s fastest supercomputer (HECToR), we made an iPod game called Waterfall and we donned our capes to perform the Supercool Ice Show!

The exhibition was a two week long affair, kicking off with a convocation of the Fellows of the Royal Society and then open to curious members of the public.

During the exhibition we ran a competition where the person with the best score in our iPod game won a trip to the ICEHOTEL in Lapland sponsored by Discover the World.

It wasn’t just the visitors who were learning, the theoreticians in the group had to move away from their computers and familiarize themselves with “experimental methods”. To grab people’s attention, and show some of the more unusual properties of water, we ran a regular Ice Show demonstration where water was made to freeze instantly in the hands of brave visitors! We also showed people how heavy-water ice cubes sink in normal water.
Our supercooling demonstration was one of the highlights of the exhibition, with crowds of up to 40 people gathering to watch and interact. This is, of course, as close as a group of theoreticians should get to performing real experiments!

The exhibition was an enormous success. We received more than 10,000 visitors over the two week period, with many visitors coming back several times with family and friends!

For more information about the exhibition visit:
www.chem.ucl.ac.uk/ice
www.youtube.com/icelcn

Support for UCL’s exhibition came from:
EPSRC,
STFC,
UCL Chemistry,
UCL Physics and Astronomy,
London Centre for Nanotechnology and the Thomas Young Centre.
Our bespoke stand was designed and built in collaboration with the UCL Architecture department.

Some of the exhibit team (from left to right): Erlend Davidson, Ben Slater, Brent Walker, Jiri Klimes, Chris Pickard and Angelos Michaelides. Notice the capes, that’s because we’re supercool.
Science Soirees
A Beacon Bursary
Rosie Coates

Last year along with Dewi Lewis and David Rowley I obtained funding from the UCL public engagement beacon bursary fund for a series of evening events in schools for adults. This has enabled the department to expand its already very healthy outreach programme to parents.

The science soirees have been informal evenings in which two members of staff or postgraduates lead discussion on cutting edge topics by means of a short presentation, demonstrations and tabletop experiments for the parents to carry out themselves as well as question and answer sessions and the use of PRS. PRS (personal response system) is a new piece of equipment which we were able to borrow from the university to collate audience responses to questions anonymously and immediately (think ‘who wants to be a millionaire?’ ask the audience handsets). The funding obtained allowed us to develop new tabletop experiments such as ‘miracle-fruit’ and to give the evening a real cabaret feel by providing food and drinks.

The areas covered included: ‘CO2: the world’s deadliest molecule’; ‘Pattern formation’; ‘A nano-elevator to the stars’; ‘A date with chemistry’; ‘Fuelling the vehicles of the future’ and many staff and students were involved, some old hands but also some new faces: Dewi Lewis, David Rowley, Ricardo Grau-Crespo, Josie Goodall, Mathew Waugh, Alex Lewis, Krishna Hassomal, Amy Poole and Laura Fenner.

We’ve learnt a lot about what topics and times work best and which parent groups are the best to target and I do hope that we will be able to build on the experience and make further use of the great presentations which those volunteers who took part designed in future years.

If you’re a teacher or a parent and you’d like to get involved with this scheme please do get in contact to let us know that there is a demand!
A view from a piece of moveable furniture

Rosie Coates

As I leave the department my thoughts have turned to the pleasant days I’ve passed in the Christopher Ingold labs since September 2001. I arrived as a green undergraduate and since have become a jaded undergraduate, a frazzled acting undergraduate and schools administrator, a self-doubting postgraduate and an occasionally frustrated teaching assistant. With such a variety of hats I’ve had a great opportunity to understand the department from many different angles.

As an undergraduate I loved the Nyholm room spirit - staff and students mingling together with tea and impending coursework deadlines. At the time I valued the sense that I was part of a year group undertaking a degree, not a lone individual. As an undergraduate I always felt that the entire year wanted to do well, as a postgraduate the reassurance that everyone else is finding a coursework question brain-aching is absence and there is an almost permanent feeling that anyone else would find the problem which has you stumped trivial. I enjoyed the companionship of undergraduate study at the time but it is only now that I can really see how the confidence it built amongst us all enabled us to keep chipping away at problems that we would have given up on in desperation almost immediately had we been working in isolation. I also think that this developed a level of determination which has been essential for those of us who continued as postgraduates and, I’m sure, valuable for all of us.

My time covering Sue Campbell whilst she was on maternity leave made me appreciate the support I received as an undergraduate, ensuring that I knew where to be and when and making sure my coursework didn’t just disappear into a black hole (although this is what I sometimes assumed). Being a teaching assistant for the last four years has also cast a different light on my four years as an undergraduate: I have to admit I now cringe somewhat at the way I viewed tutorials in my first year. I’m fortunate to have had delightful (or truant) tutorial groups, I’m certainly glad I haven’t had any young upstarts like myself!

Life in the general office gave quite an insight into the inner workings of the department: as a researcher is easy to think that the department lives or dies by research, whilst as an undergraduate one tends to think that the department is only as good as its teaching. It is largely the difficult task of the support staff, both technical and administrative (along with senior management), to balance these functions and to manage this without showing too much exasperation at the demands of both groups.

It’s worth pausing before you ask Dave Knapp, or Laura Mulchahy, or Phil Hayes to ‘just’ do something terribly important for you right now (I can think of countless instances when I’ve been guilty of this) to think how many other demands they’re juggling and what they might have been doing before you stormed in. Unfortunately, even after nine years I haven’t quite mastered this and still seem to alternate between demanding and gormless!

My final role in the department has without doubt been my favourite: PhD
“Bad Science” (by Ben Goldacre)
Review by Antonio Torrisi

Or better “Bad Medicine”? The question is legitimate, because Ben Goldacre is a British medical doctor and is research fellow at the Institute of Psychiatry at King’s college, working as junior doctor working full time at NHS. This is all reflected in his great book “Bad Science”, published by Fourth Estate in 2008, which borrows its title from the column he has been writing in the Saturday edition of The Guardian newspaper.

To be honest I did not know who Ben Goldacre was and when I approached the book I expected to find an “anthology” of cases of bad research and hypothetical unverified theories from different scientific fields: from the strange case of poly-water to the famous flop of the “cold fusion”. On the contrary, I found myself in the world of pharmaceuticals, homeopathy and clinical issues, so that I initially considered the title a bit misleading. It is not as I concluded at the end of my reading.

Starting with a very ironic and exhilarating illustration of the esoteric, pseudo-scientific theories behind the Aqua Detox product and Ear Candles, he analyses all the pseudo-science behind homeopathy and related theories of infinite dilution. Goldacre accounts for the paradoxical claimed numbers and improbable consequences (homeopathic drugs would be more diluted than a molecule in the number of particles of the entire universe), as well as for the lack of evidence in...
REVIEW

experimental procedures for clinical tests of these products.

Necessity of scientific evidence is the central point of the book and it is very well analysed in the book. Goldacre accounts for the failures of pseudo-scientific theories such as homeopathy, but also for the failures and risks occurring in truly honest scientific research and clinical experiments when lack of evidence and misconduct are present in crucial tests, as demonstrated by the systematic underestimation of the placebo effect. A chapter is dedicated to the mainstream medicine and the methodological failures and incautious behaviours in the specific context of the clinical test of new drugs conducted by the pharmaceutical companies.

Anecdotes and specific cases are spread all around the book, reporting very detailed information about the different stories and cases. Many of these stories, especially those about nutritionists, will make you smile. However, some of the stories could have dramatic consequences when belief in these pseudo/bad scientific claims is deeply embedded in the society of a country. An example is recounted in the case of the anti-conventional HIV treatment in South Africa proposed by Matthias Rath. This is a very hot topic, and it reminded me the other very worrying cases occurred in Italy in 1997-1998, when Dr. Di Bella ("Dr. Hope" of the Newsweek magazine) proposed an alternative cure against some types of cancer based on of Somatostatin-Melatonin hormones and vitamins, which had the utter lack of scientific evidence. In this case, as well as in the case of the MMR hoax, widely recounted in the last paragraphs of this book, the role played by the media was critical in capturing the popular attention on these cases of pseudo-science.

Indeed, media are one of the main targets of the author. After pursuing a lucid critic and reflection about the danger of pseudo-science (enriched with a large number of reported graphs and a rich bibliography), and the role played of the communication, Ben Goldacre points the finger straight to the journalists. He addresses the media, complaining that they are largely incompetent with respect to science. There is no doubt that the media have always had huge power over influencing some beliefs in society, but Goldacre sounds in this part as if he is conducting a campaign against media rather than invoking more responsibility for the scientists, scientific ethics and encouraging readers to take a more critical approach when reading science in everyday non-specialised newspapers.

Overall, this is a very enjoyably readable book that objectively tackles the problems of scientific ethics, the necessity of evidence-based clinical research and urges correctness in science communication. These problems are present more widely than those areas specifically related to clinical research and medicine. I think for instance, the current research and related information produced about such delicate scientific issues as the climate change and global warming are and from this point of view this book “Bad Science”.
The Nobel Prize for Chemistry 2010

Antonio Torrisi

December 10th 2010, Stockholm Concert Hall: who is going to be the scientist selected by the Royal Swedish Academy of Science to collect the 24 carats gold medal and a sum of about 918,000 pounds from the Carl XVI Gustaf, King of Sweden for the “greatest benefits on mankind” in the field of Chemistry?

Possibly, since its first appearance the Nobel Prize did not only increase the fortunes of the winners, but also of gamblers who started to make prediction about the possible winners of the award. Nowadays, the prediction of the Nobel Prize has become a common intellectual challenge, which every year involve blogs, scientists and important international scientific journals to guess who is going to be the winner of the year.

The first winner of the Prize was Jacobus Van’t Hoff in 1901 for the discovery of the laws of chemical dynamics and the osmotic pressure in solutions and since then, the Nobel Prize has been assigned for important discoveries in all the fields of Chemistry, from Kinetics to Theoretical chemistry, through Inorganic Chemistry, Organic Chemistry, Radiochemistry, and many other fields.

Looking at the complete list of all the Nobel Prize in Chemistry (http://nobelprize.org/nobel_prizes/chemistry/laureates/), we can note two important recurring aspects in the assignment of the award: the first is that a significant discovery is often awarded the prize only after a certain number of years; Pople and Kohn received the Nobel only 30 years after their work in the development of the quantum ab initio methods in molecular simulation! This is due to the fact that only a relatively long time distance can really unveil the importance of a certain scientific discovery, either from the knowledge or the technological point of view.

The second aspect is the reasonable alternation in the awarded topics and fields of chemistry. In the last 20 years 8 Nobel Prize have been awarded in Biochemistry, 6 in Physical Chemistry (2 in Catalysis), 3 in Organic chemistry, 2 in Material Science, and only 1 in Theoretical Chemistry and in Spectroscopy. In particular, Biochemistry has won the last eight years, during which it was awarded five times. Without wishing to diminish the importance of the world of proteins and the vital field of biochemistry for the scientific progress of humanity, I think that time might have come for scientists from other fields of chemistry to be awarded.

A variety of good candidates who came into my mind, such as Avelino Corma for his work in catalysis in zeolites or Michele Parrinello and Roberto Car for their theoretical work in the development of ab initio Molecular Dynamics method, but I finally decided to bet on the duo Graetzel-Balzani, in the field of material science, for their work in the study of the photo-electron transfer processes in coordination compounds, in the field of the photoelectrochemical conversion of solar energy.

My choice is also motivated by the pressing necessity of accelerating the discovery of new renewable energies sources, in the perspective of a future movement from a carbon-based to a hydrogen-based economy. Moreover, for both of these scientists about 20-30 years have passed
since they started their studies and
discoveries in the field of photo-electron
transfer process in chemistry.

Vincenzo Balzani from University of
Bologna started his studies on the
photochemical and photophysical
behaviour of coordination compounds.
In the early 1960s and around the 1980s
he discovered the photochemical and
luminescent behaviour of the Ru(II)-
polypyridine complexes, showing the
possibility of manipulating the ground-
state and excited-state properties by
choosing different types of ligands. He also
demonstrated the possibility of controlling
the photochemical and photo-physical
properties of many coordination
compounds by the formation of
supramolecular structures, which can lead
to an efficient photo-electron transfer
process among different connected organic
molecules, mimicking the mechanism
behind the natural photosynthesis. He
pioneered the field of supramolecular
chemistry and the field known as artificial
photosynthesis. His most recent interests
focused on the study of the photochemical
properties of some supramolecular
structures to design potential nano-devices,
which can perform specific functions
typical of macroscopic devices at molecular
level, upon external light excitation.

Michael Graetzel started his studies in
the ‘70s on the photo-electron transfer
processes on phenothiazine to metal ions
acceptors and from then to now he has
pioneered the research in energy and
electron transfer reactions in mesoscopic
materials and its applications in solar
energy conversion. He is the director of
the laboratory of Photonics and Interfaces
at the university in Lausanne, Switzerland
and he has recently won the Millennium
Technology Prize for the discovery of the
Graetzel dye-sensitized solar cells.

The Graetzel dye-sensitized cell is
constituted of a porous layer of titanium
dioxide (TiO2) with its surface covered
by a thin film of a photo-sensitive organic
dye (Balzani’s Ru(II)-polypyridine) that
absorbs sunlight. The material is in contact
with a thin layer of an electrolyte solution.
As in an electrochemical fuel an anode and
cathode are placed on the two sides of
the system TiO2-sensitized dye-electrolyte
solution. The thin film of organic dye
covers the surface of the porous TiO2 and
it is the part that absorbs energy from the
sun. Through adsorption of the sunlight an
electron of the dye is excited and transfer
in TiO2 system, from where it flows into
the anode. On the other hand the dye
rapidly regains an electron from the
electrolyte solution. Through an external
circuit the electron flown to the anode,
can reach the Pt cathode and from there
be re-inserted into the electrolyte solution.
The result is an electrical current generated
by sunlight absorption. The efficiency of
this new cell is slightly lower, 10% vs.
15%, than that of the traditional silicon-
based photovoltaic cell but this material
represents a fundamental breakthrough in
the field of solar energy conversion.

In a time when nuclear energy and other
alternative energies became again
candidates for an alternative energies
scenario, I think that many people are still
hoping that the future will move into the
direction of solar energy. For this reason
and for the dedication of their entire
careers in offering a possible way to walk
towards the sun, I think Graetzel and
Balzani are worthy of this special visit to
Stockholm.
The Chemistry Department has a long and distinguished history that has never been adequately recorded. We are trying to make good that omission, starting with a trial run on the decade 1960-1970. The salient features will be documented, but we are not aiming at a work of historical scholarship, rather a readable account of the ever-changing life of the Department.

We wrote to the 1960-1970 alumni for whom we e-mail addresses, for their memories of that period. We have had a tremendous response and some of the material will appear as an anthology of reminiscences.

That decade was a period of great change for the Department, the Headship moving from Ingold, to Hughes, and then to Nyholm, with the resulting changes in the way the department was run and in the major research themes. The arrival of de la Mare, Maccoll, Craig, and Nyholm had catalysed an influx of postgraduate antipodeans, some of whom joined the staff, and the planning of the new building at last got under way.

We give here a taster of that chapter in our history. First, there is an account by John Ridd, who lived through that period, of the effect of that changing headship on daily life in the department, and, second, brief sketches of some of the memorable characters, culled largely from the memories of alumni of that period.

When that chapter is finished it will leave some 170 years yet to be covered. This is a plea for help! Please send us you stories of your time here. Anything from polished essays to anecdotes would be welcome, and photographs we would happily scan and return.

Alwyn Davies
a.g.davies@cul.ac.uk

Peter Garratt
p.j.garratt@ucl.ac.uk
Chemistry Dept: 1960-1970

In 1960, Ingold was still Head of Department and Director of the Laboratories. The College regulations made it necessary for him to retire in 1961 and Hughes took his place but this change had few observable consequences for no new Professor was appointed and Ingold stayed on the staff with the title of Special Lecturer. The research groups working with Ingold were not significantly affected by this change.

Under Ingold, the Department was run as a single unit with all important decisions being taken by the Head of Department.

In the research laboratories, there was no formal division into the conventional areas of organic, inorganic and physical chemistry so that the students in most of the laboratories came from a mixture of two or three of these disciplines. The appointments of members of staff made no mention of any particular branch of chemistry and, within reason, they were expected to cope with almost any aspect of the first and second year undergraduate work. They did, however, have almost complete freedom to select the detailed content of their courses. This could have unfortunate consequences for the students. When I took over the second year physical chemistry course for the ancillary students from Albert Wasserman, one of the students who had been required to repeat the year complained that there was almost no overlap with the previous year’s work: I had concentrated on Thermodynamics and Wasserman on Quantum Mechanics. Wasserman later told me that he was learning quantum mechanics at the time and found it convenient to give a series of lectures on the subject.

When I was asked to look after the Departmental Library, I was told to use the title “Secretary of the Ramsay Reading Room Committee” in dealing with any correspondence. When I asked about the composition of this committee, Ingold said “I am the Ramsay Reading Room Committee”. I ought to have expected that response for, at that time, I did not know of any internal committee within the Department.

In spite of (or perhaps because of) the absence of committee meetings, the Department ran in a very efficient way. Any discussions necessary were held over coffee or tea. About half of the staff came to coffee in the Joint Staff Common Room in the morning and even more met for coffee after lunch in the Men’s Staff Common Room. There was a long table there that seemed permanently reserved for chemists. At the end of the day, a few staff met for coffee in ‘The Royal’ (a small cafe across the Euston Road) or for a drink in the Orange Tree pub. Originally the Department had two tea clubs, one mainly for staff and visitors from overseas (it may have been called the Seven Seas Tea Club), but I think that by 1960 they had merged. I recall quite a large tea club that met at 4 p.m. in the small lecture theatre on Z-floor. I was asked by Lady Ingold to ‘look after’ this tea club and remember being disturbed to find that there was no record for any recent payments for the milk. It turned out that the cleaning lady who put out and washed up the cups had been paying for the milk herself; she said that she felt responsible for the club. Providing a suitable recompense led to a considerable increase in the membership subscription for that year.

I have used the old names for the common
rooms above because I think that the gender rules for their use were then still in use. They were certainly strictly followed. I remember that during coffee after lunch one day a female secretary crossed the Men’s Staff Common Room to give a message to one of the members. The normal hum of conversation was suddenly stilled by this most unexpected sight. I think the secretary must have been embarrassed by this for she almost ran out of the room.

The treatment of the Department as a single unit applied also to financial matters. The individual research groups did not have individual accounts and all apparatus and chemicals were considered to belong to the Department. When research workers wanted chemicals or apparatus, they simply went to the appropriate stores and signed for them. Research students had to pay for any breakages and quite strict rules were applied. Thus each desiccator and its lid had an individual number scratched on it and any research worker who returned a desiccator and a lid that did not have matching numbers was charged for both.

Problems sometimes arose when the stores did not have the required items. When I first joined the staff, I required a stopwatch for kinetic studies and, at that time, the stores had only one left. The storekeeper was, at first, reluctant to let me have it “in case somebody might need one” but was eventually persuaded that “somebody” did. Only a small number of the senior staff were authorised to order additional apparatus for the Department and I recall quite a long discussion with Harry Poole before I could obtain two 4 cm. silica cells.

Following the death of Professor Hughes in 1963, Professor Nyholm became Head of Department and, in many respects, life changed considerably. Money suddenly seemed to be more available with much less scrutiny over the ordering of new equipment. Nyholm was also concerned over the welfare of the students and started an annual series of separate staff-student parties for first-year, second-year and third-year students. I was given the task of organising these and was told that now we had access to some unrestricted funds I need not worry over the cost. Rather curiously, my original order to the refectory for one of the first parties can still be deciphered and reads: 10 Riesling, 10 Hock, 5 Beaujolais, 5 Entre-Deux-Mers and 1 Brandy; sandwiches and cocktail snacks for 40. There must, I think, also have been some non-alcoholic drinks as well. The brandy was not revealed until all the students had left and was to encourage members of staff to stay until the end.

This recipe, with minor variations, worked well for several years. The parties were well attended and we learnt quite a lot about the students’ views on our courses. The students probably also acquired more confidence in talking to members of staff. At that time, there were no tutorials and certainly no concept of ‘Office Hours’ and so the main contact of staff and students was limited to a few minutes conversation after lectures. With these parties, there was an obvious risk that the students might drink too much but I can recall only one evening when a student needed some help to stay on his feet. He was conducted down to the Porters Lodge and a call was put through to his father who came to pick him up and seemed highly amused by the proceedings.

A problem did arise however when the Department acquired a new Administrative
Most of the responses which we had from the 1960-1970 alumni included comments on the academic and technical staff. Here is a selection.

Jim Millen
Jim Millen was usually known as Gentleman Jim. He used to get Christmas cards from Tom Lehrer, and it was often said, and never denied that Jim taught him the names of the elements. His lectures were model of clarity. The Chemical and Physical Society had an annual poll to name the best lecturer, and he usually came out top.

Judith Hook (then Runciman) was Jim’s secretary, and says “To work for Jim Millen and his group was marvellous. People had warned me that Prof. Millen was aloof and not easy to work for. Nonsense, to me he was the kindest and most patient of men and his expectation of a very high standard of work was the very foundation of my future career. In those days, Prof. Millen was frequently asked to give lectures abroad and he used to stride around his office dictating the lectures which I duly took down in shorthand, scurrying around the office after him in order to hear him clearly, and then typing them back. Presumably he was able to make sense of my interpretation of his output but for years afterwards the only shorthand in which I was really proficient was that which involved long chemical names and formulae in physical chemistry.”

“IT was not all slog and misinterpretation for me in my little office. Members of Prof’s group used to appear for morning coffee and afternoon tea – he was so tolerant! Peter Pauling always seemed to
know when a good group was gathering, usually comprising some of the other secretaries - who could ever forget the lovely Lynne and the dramatically foreign looking Marie? Tony Legon and John Bloodworth would come along to swell the numbers, and Simon Hook, one of Alwyn Davies’ students and my future husband, could sometimes be persuaded to help wash up. Rumour had it that Alwyn Davies and Jim Millen were actually running a dating agency as, after I left the department my successor, Daphne, went on to marry Ray Tudor, another of Alwyn's Ph.D. students.

Ted Hughes

“Ted Hughes was very much loved by the students because he could see things from their perspective. As an example, he started his lectures on Organic Reaction Mechanisms with something like the following:

“The book for this course (Ingold’s *Structure and Mechanism in Organic Chemistry*) is rather expensive for students to buy, so what I want is for you to copy what I write on the board and if you learn and understand it you will be all right.’

He then proceeded to write out in straight lines across the boards a superb synopsis of the book, going from one lecture to the next starting from exactly where he had previously left off. I am looking at those notes right now and they are completely comprehensible and never needed any re-writing’.

That praise came from Len Dissado. What Len did not know is that Ted’s notes did not change from year to year, so one year, to be helpful, the students wrote out the lecture on the board before Ted arrived. Ted was not amused, wiped the board clean, and rewrote, word for word, the same lecture.

Ted had an ample figure. David Craig writes that there was an old wooden armchair near the northwest door of the chemistry department. When a member of the department was elected FRS it was the custom for members of the department to place the new FRS in the chair and convey him to the orange tree for a celebratory wetting of the head, or perhaps of the throat. Ted was built on the heavy side; they managed to get him in the chair out into Gower Place but only with a struggle did they manage to make the Orange Tree.

He ran a string of racing greyhounds, all with appropriate names such as Gower Prince and Gower Lass.

He was master of the one-liner. On the occasion of a student’s Ph.D. viva, Ted said to him “I am taking your external examiner to the Casa Prada for lunch, and if we are a little late coming back, it won’t be to your disadvantage”. On another occasion, he had arranged to go and see a research student at 5.00 pm. At 5.45, when Ted had not turned up, the student said to his lab mates “If bloody Ted turns up, tell him that I got fed up with waiting, and have gone home”, when a quiet Welsh voice behind him said “No need, Kennedy, I’m here”.

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Harry Poole

Harry worked his passage to England from Melbourne in 1933 as an able-bodied seaman, to join the Department.

The teaching labs in the “old” building had, at the ends of the benches, a large sink with taps with handles in the shape of a ring divided into four quadrants. The first thing that Harry Poole taught me (AGD) was that the crown cork of a beer bottle could best be removed by inserting into one of the tap’s quadrants, followed by a sharp downwards twisting motion.

Harry’s room was in the basement, and in the floor there was an open drain, covered only by a floorboard, which carried all the waste from the upper floors. One day, Ted Hughes said to John Rose, with a perfectly straight face “It would be easy to murder Harry, you know. All that you have got to do is to put some ether down the sink from a floor above Harry, then follow it with a bit of sodium”. John still does not know quite what Ted was getting at.

Harry lectured on quantum mechanics and thermodynamics. For illustrating the spatial distribution of atomic orbitals he had acquired a job lot of coconut shy balls which he painted red and white to show the electron distribution, and had these arrayed along the front of the lecture bench.

He had the reputation of often being late for lectures. One day, when he was very late for a thermodynamics lecture, the students wrote up on the board, before he came, his favourite comment “Thermodynamics takes no account of time”.

The spectroscopy lab in the basement where his students worked had, over the door, the quotation from Dante’s Inferno “Lasciate ogni speranza voi ch’entrate” (All hope abandon, ye who enter here).

He had his own special recipe for the punch at the Christmas party and used to brew it up in the preparation room which was joined to the C1 theatre and the Ramsay Reading Room where the party took place. We still have the copper ladle which the workshop made. The technical staff – Tom Collins, Tommy Thompson, and Harry Atkins – thought that his method distilled off all the alcohol, and they used to top it up with ethanol whenever he left the room.

Ron Nyholm

Ron was a charismatic Australian and needed three secretaries to keep up with him. Ingold, and then Hughes, ran the department as benevolent dictators. When Ron took over in 1963, the six or seven professors, met in his room late on Thursday afternoons and, plied with beakers of Australian sherry, would go over the current and future issues which the Department faced, until well into the evening. That made it much easier for someone else to take over when he was so tragically killed in a motoring accident in 1971.

It was a period of great change in the department, each one preceded by a letter from Ron assuring everyone that their rights would be protected. The letters always began “Dear Colleague” and ended with a sentence which began “Rest assured…”. Even now, if two old chemists meet, and one greets the other with the welcome “Dear Colleague” and the other replies “Rest Assured”, you know that they are survivors from that heroic period.
HISTORY

He had the Australian’s love of cricket. When he was chairing a meeting, or giving a lecture, he would announce how the test match was going, and, if England were winning, the students would write the score on the blackboard before he went in to lecture.

He would play in the annual England versus The Rest cricket match at Shenley. Rules governing the choice of teams were flexible and Ron would sometimes bring along Harry Massey (another Australian, from physics) or Peter Medawar (from zoology) to make sure that The Rest won. Essentially the whole department evacuated to Shenley for the day. Unfortunately it was one of those days that Linus Pauling picked to visit the department without notice, and the only person around was Harry Atkins who was a kind of general handyman. His conversation with Pauling, and Pauling’s reaction, are not recorded.

On one occasion Ron set a finals examination question which should have read “How, briefly, would you explain Jahn-Teller distortion…”, but the commas got missed out and the question paper said “How briefly would you explain Jahn-Teller distortion…”.

Ron came roaring down the corridor waving an answer script. The student had answered the question in two words: “Very briefly”. He was expecting sympathy but all he got was “Well Ron, it is a perfect answer. You have got to give him full marks”.

Allan Maccoll

“Double l, double c, double l; I’ve got two of everything”. He led the post-war invasion of the antipodeans, paving the way for memorable characters such as Ron Nyholm, David Craig, Peter de la Mare, Ian Ross, Tom Dunn, Bryce Bosnich, Don Watts, Dick Bramley, Brian Figgis, Brian England, Robin Clark, John Packer … one could go on.

Allan, known as Mac, arrived in 1945 and had his first taste of lecturing when Harry Poole, our one pre-war Australian, had pneumonia and Mac took over his thermodynamics lectures and confused his audience with his Australian accent.

He had a left-wing social conscience, and was chairman of the college’s Association of University Teachers and of the Senior Staff Common Room. There is a well known photograph, which made the national press, of him in academic dress and holding a placard, at a public demonstration protesting about low academic salaries. On close inspection that scarlet D.Sc. gown showed the scars of many duties as Father Christmas at the annual AUT Christmas party for children.

He always had lunch with friends such as Joe Scott, the librarian, in the staff common room. After a life as a chain smoker he managed to convince his wife that he had reformed until one day she accompanied him to lunch and the man at the bar said “Your usual cigarettes sir?”

Peter Pauling

“Peter was --- well, Peter. His lectures were always guaranteed to add zest. He began the first one by singing Tom Lehrer’s song about the elements, and used the Californian orange groves as an illustration of perfect symmetry. Once he was suffering from a heavy cold and used a toilet roll, moving the tissues from one pocket to the other via his nose. Another time he was baby-sitting so brought his son – a
toddler who spent quite a bit of the lecture wandering around the theatre. After a while he went quiet behind the desk from whence he emerged having coloured his legs with various chalks.”

“When he lectured Peter was totally unable to stand still. To and fro across the front of the theatre, up and down the aisles and round the back at the top. You just listened. When he stood on the table to propose the toast at the annual Chem Phys Soc dinner, he walked up and down the table. Our tutorial took place in the Marlborough”. (John Aupers)

The visits of Peter’s father, Linus, were always an occasion, and when he lectured, the large C1 theatre was filled to overflowing. The locals could get in early and bag a seat, but many visitors had to be diverted up the fire escape at the back of the theatre. The family connection was useful and Peter helped two students to get jobs working with Linus at the Gates and Crellin labs at CalTech in Pasadena in 1992. Linus was also one of the five Nobel prize winners who gave a lecture to the Chem Phys Soc in their centenary year in 1976.

Evacuation, 1952
You all know the departmental folklore of the Chemistry Department being evacuated in September 1939 when war began, the Special Chemistry degree going to Aberystwyth and the General degree to Bangor. It may come as surprise to hear that, in 1952, evacuation was again being planned.

The cold war began almost as soon as the hot war ended. The USSR annexed Latvia, Estonia, and Lithuania, and East Germany, Poland, Hungary, Czechoslovakia, Romania, and Albania became Soviet satellite states. In 1948 and 1949, the Russians blockaded Berlin with the ultimate aim of putting all Germany under Soviet control. It failed to break the British, French, and American occupation only because of the Berlin air lift, but it resulted in the formation of two separate German States. The first Soviet atomic bomb was exploded in 1949 and a nuclear war between NATO and the Warsaw Pact seemed a real possibility.

The college drew up plans for evacuation, and negotiations started for undergraduate teaching to go to Oxford. There was a total of 105 Special Chemistry students, 95 men and 10 women, who needed accommodating; postgraduates were to remain in London. On March 5 1952, Professor Ingold went to meet Brewer, Robinson, and Hinshelwood, the professors of inorganic, organic, and physical chemistry respectively, to discuss possibilities. In view of the antipathy between Robinson and Ingold, one might think that this was a difficult meeting, but apparently it went well, and Ingold reported to the Provost, Lord Evans:

“I went to Oxford yesterday, and met Brewer again, and also Robinson and Hinshelwood. They are all quite willing to contemplate receiving our undergraduates in the event of a war, but whether it would be possible depends entirely on whether there would be an immediate general fall in undergraduate numbers. At present the Oxford undergraduate accommodation is fully utilised, just as ours is. If these numbers remained much the same, they could not take us; but if their numbers, and ours, each dropped, say to one-half,
Near the start of my Ph.D. in 2007 I became a Science, Technology, Engineering and Maths (STEM) Ambassador. STEM ambassadors have the opportunity to take part in a wide variety of events, including judging competitions in schools, helping at museums and regional science events, running school science clubs, delivering workshops such as the popular Spectroscopy in a Suitcase or developing their own presentation. I decided to produce an interactive talk to be delivered in a Year 9 science lesson on the topic of magnetism.

While I was planning my presentation I was very nervous about having to stand up in front of a room of people, engage their interest and keep them under control, but when it was time for my first session I felt quite confident and I really enjoyed the experience. I have since updated my presentation a few times and delivered it to a total of 8 different classes. Each talk has been a success, and I am very proud to have had a teacher whisper “brilliant” into my ear midway though a session and to have had students come up to me afterwards whilst I was eating my lunch to thank me and tell me what they enjoyed the most.

Magnetism is a subject which students learn little about at school, so my talk aims to teach them some more interesting and unusual facts about the topic. I begin by reminding the students about some simple magnetic properties and introducing them to the strong rare earth magnets that they use during the lesson. They carry out two experiments: one which demonstrates that grapes are repelled by magnets in the last war showed that the Oxford laboratories could not be blacked out; thus laboratory time in winter would be restricted” and “U.C.L. apparatus not actually in use would have to be stacked in portable boxes”.

It turned out that the cold war remained cold, and, to everyone’s relief, this ominous chapter of the department’s history never had to be written.
due to the diamagnetic water that they contain, and another which shows that magnets can be used to extract metallic iron from cornflakes. I talk to the class about how the Earth’s own geomagnetic field protects us from solar radiation, and how the geomagnetic poles move around and can even completely swap places. We also talk about magnetoreception - the ability of certain animals, such as turtles and robins, to be able to detect and use the geomagnetic field for navigation. The lesson flies past every time and there is always much more that I would like to discuss!

I gave my last magnetism talk a few weeks ago, as I am now coming to the end of my Ph.D., and although I am a bit sad that I won’t be presenting that session again I am due to start teacher training in September, so I will soon have the wonderful opportunity to teach all sorts of science topics to many more students.

Anyone interested in becoming a STEM ambassador or taking part in school-related activities should contact 

David Rowley or Dewi Lewis.
1944
**Henry Shine** was in the department at Aberystwyth during the war and then did a Ph.D. at Bedford College with E.E. Turner. Since 1954 he has been at Texas Tech University where he is now Paul Whitfield Horn Professor Emeritus and Research Professor at Texas Tech, continuing his research in cation radical chemistry (http://www.arkat-usa.org/get-file/19500/).

He visited the department with Jim Utley (Postdoc with John Ridd, 1963) in July.

1955
We are sorry to hear from his wife that **Kenneth Goodhead**, who graduated in 1955, died in August last year.

1957
**Veronica Barkey** (Slater), after a career in school teaching, is celebrating 50 years of marriage to Jack.

1957
**Erwin Buncel** (Ph.D. with Alwyn Davies) is still active in research as Professor Emeritus in Queens University, Kingston, Canada.

1960
**Mervin Rudkins** retired from teaching in 1995, then took a B.A. at the Open University in Computing and IT and then a B.Sc. in 2009.

1960
After graduating in 1960, **Noel Capon** did a Ph.D with Allan Maccoll. He then worked for ICI, before further studies at Manchester, Harvard, and Columbia – and another PhD. Following faculty positions at UCLA, and Harvard, he joined the Columbia Business School in New York over 30 years ago, where he is the R.C. Kopf Professor of International Marketing and former Chair of the Marketing Division.

1961
**Don Watts** will celebrate his 50th wedding anniversary at the Bell Tower in Perth, W. Australia. He was married at St. Martins in the Fields on July 1 1960 “in a very University College function”. He is a connoisseur of universities having done a Ph.D. (and held a chair) at Western Australia, a post-doc at UCL (1959-1961), been Vice Chancellor of both Curtin University and Bond University, spent time at the Universities of Toronto and of Southern California, and now, in retirement has a role in the planning of the University of Southern California.

1961
In the Queen’s Birthday Honours, **John Tillett** was made an MBE in recognition of his work as a governor at Colchester Royal Grammar School, including the past 12 years as chairman of the board of governors.

1962
**Robert Bywater**, living in Helsingborg, Sweden, has affiliations with Magdalen College, Oxford, the Adelard Institute, Manchester and the University of Essex. Although he is “retired” he says that he is busier that ever with research on topics such as receptor biophysics, protein folding and protein dynamics, and DFT calculations on small organic ligands.

1966
After graduating in 1996, **David Cash** returned to Canada, and after an M.Sc. and Ph.D. at the University of Toronto has retired from a career as a college teacher from 1973 to 2009.

**Derrick Russell** retired in 2004 after a career as a development chemist in the private and public sectors, and now works at the Albert Sloman Library at the University of Essex.
1970
After graduation, Michael Yoemans obtained a Ph.D. degree in Queen Elizabeth College, and then carried out research with Hoechst for 7 years before moving into a series of managerial positions with Hoechst, Aventis, and Biovail. He is now with Bayer AG in Berlin.

1972
Alan Davis writes from Saratoga Springs, NY, USA, to say that his final year crystallography exercise with Judith Milledge stimulated him to do Ph.D. in Simon Fraser University on inorganic structural studies, and his Dram Soc experience led him to write, act in, and direct plays in Canada, with some national success. After some time in University teaching, he gravitated towards academic administration, and is now President of the State University of New York’s Empire State College, which is the NY version of our Open University.

Recently Alan was visiting the UK and his contemporaries organised a mini-reunion at Balfours restaurant. Those attending were Brenda Snaith (Muggleton), who is taking up teaching and is currently doing teaching practice; Phil, Alder who represented the US in the bridge world championships and is currently bridge columnist for the NY Times; Charlie Crowley, who retired from being a senior IT manager at NatWest/RBS in 2008 and spends 2 days per week working for the charity CAFOD, and Fiona King (McLauchlan) and Frank King, who is now retired after 29 years in Pharma and is currently an Honorary Research Fellow in the department.

1973
Stephen Halloran (BSc 1973) was awarded the MBE in the Queen’s Birthday Honours list for services to healthcare. He is, among other things, Consultant Biochemist at the Royal Surrey County Hospital, Guildford.

1976
Keith Foot, who is well remembered for blowing out the windows from his fourth floor laboratory, moved some years ago from school teaching to be a clergyman in an Essex parish. He has now retired and lives in Chatham.

1983
Barbara Imperiali has been elected to memberships of the American Academy of Sciences. She was of one of our early graduates in 1979 in Medicinal Chemistry, and is now Professor of Chemistry and Biology in MIT.

1990
Veronica Jackson, who was successly personal assistant to Ron Nyholm, Alwyn Davies, and Max McGlashan, is enjoying 20 years of retirement in Essex, and is secretary of the Local Wine Society.

1994
Richard Bellingham, postdoc 1994-1995 is a chemist with GlaxoSmithKlyne in Tonbridge.

Richard Timworth works in the city as a consultant, spending half his time in Munich. He plays hockey for Southgate and tennis for Winchmore Hill.

1997
Adrian Bradley is a partner in a firm of patent and trade mark attorneys, practicing mainly in the fields of pharmaceuticals and chemistry.

1998
Matt Popkin (Ph.D. 1998) is working in process chemistry with GlaxoSmithKlyne, travelling to Singapore a lot, but still able to do some lab experiments.
Robert Leach entered the Department in 1932, while at the same time, continuing to help his widowed mother in her drapers shop in Holloway. He won the Tuffnell Scholarship in 1934 and the Rosa Morison Medal in 1935, graduating with first class honours. He then worked for his Ph.D. degree with Henry Terry, using one of Heyrovsky’s polarographs.

He joined the Fishburn Printing Ink Company in Watford in 1937, and set up their first research laboratory, progressing to become head of all the laboratories in 1947, and technical director in 1958 until his retirement in 1975. Ray Pearce (B.Sc. 1948) and David Hare (Ph.D. 1961) were recruited from the Department into his team.

During the war his various responsibilities included making rust-resisting inks for metal plate, camouflage coating for shell cases, black matte coating lacquer for the metal strips (“window”) which were dropped to confuse German radar, and providing substitutes for German chemicals which were no longer available, such as the adhesive for Tate and Lyle sugar bags and the coating for carbon paper.

In his retirement he became technical editor of the printers’ journal Ink and Print International and editor of the printers’ bible The Printing Ink Manual, which he kept up to date as the industry developed.

He had a wide range of interests outside chemistry. He was a bird watcher, he played the clarinet, he had a large range of classical recordings, and ran a music circle. When he was 80 he started a monthly men’s coffee morning which became known as the Literary, Scientific and Philosophical Society, and he owned his first computer at the age of 89.

He was almost 96 when he died in early 2009.
JOHN CALLOMON 1928-2010
John Callomon was born in Berlin in 1928, but his family moved to England in 1937 as refugees from Nazism.

He graduated in Oxford in 1950 then did a D.Phil. with H.W. Thompson, and postdoctoral work in Herzberg's lab in Ottawa on the electronic spectrum of the diacetylene ion, C_4H_2^+.

John came to UCL as a lecturer in physical chemistry in 1957. He inherited Gerry King’s 6m Ebert spectrograph and published on the spectra of several small molecules and ions, including H_2CO, N_2O^+, C_3N_3H_3. He realised that the spectrograph was becoming outdated so, with Graham Chandler, he designed and built a 4-m Czerny Turner spectrograph which was one of the top 3 performing instruments in the world at the time. His seminal work was on the electronic spectrum of benzene, which brought him international acclaim.

When this type of spectroscopy fell out of fashion in the 1990's because of the development of lasers, John spent more and more time on his other love, ammonites, the study of which made him internationally renowned. He made several fruitful geological expeditions to Greenland and Alaska, some in conjunction with the Danish Geological Survey. He pioneered the recognition of sexual dimorphism in ammonites and he has a large publication list as a result of these studies. In 1993 he was awarded, with Tove Birkelund, the Steno meal by the Danish Geological Society.

John was very keen on the social side of Departmental activity and it was he that managed to get through the College and Department authorities a proper Departmental Common Room. With Edgar Anderson he was the other half of Bentham Fine Chemicals which organised wine tastings and the supply of wines. He retired as Professor in 1993.

He could be unsettlingly forthright in his opinions, but behind this sometimes tough exterior lay a charming and cultured man who could always be guaranteed to have thoughtful insights to contribute to any discussion.

He died on April 1, 2010, and is survived by his wife, Esther, and three sons.

Alwyn Davies

RUPERT PEARSON 1932-2010
Rupert Pearson came to the Department in 1951, gaining a B.Sc. in 1957 and, on a British Celanese postgraduate scholarship, a Ph.D. in 1957, winning the Ramsay Medal. He joined ICI plastics Division in Welwyn Garden City and worked on all the major film-forming and
OBITUARIES

JOHN GREEN
1930-2010

John did a B.Sc. degree in the Department, graduating in 1950, then a Ph.D. with Allan Maccoll with the thesis title: *The gas phase pyrolysis of some organic bromides.* In 1953, after National Service in the education branch of the RAF, he joined the National Physical Laboratory, from where his publications were mainly on vibrational spectroscopy, and he was visiting lecturer in molecular spectroscopy at Kingston Polytechnic (now the University of Kingston) in the early 1970s. In 1978 he moved to the Tropical Products Institute which was then in Chancery Lane, but later moved to occupy the former Naval Training base at Chatham (now the Medway campus of the University of Greenwich). He rose to become Deputy Director (when another of our alumni, Malcolm Thain, was Director). This involved extensive travelling to former colonial countries in African and the Caribbean, and in India.

He retired in 1989 and was made a Honorary Senior Research Fellow of this department.

He had a life-time’s interest in the history and the philosophy of science and had an extensive library. He wrote articles on the early history of the Department in the *Journal of the Chemical and Physical Society* in 1956 and 1957. He was Secretary of the RSC Historical Group of the Royal Society of chemistry in the early 1990s, and convenor of their very

He was born on 18 September 1932 and died of a cardiac arrest on 14 April 2010.

*Alwyn Davies*
successful symposium that was part of the 150th Anniversary Congress at Imperial College in 1991.

John lived for over 50 years in Hampton Hill with his wife Norma, who survives him. He died, aged 80, on 20 March 2010. Norma has passed on to Andrea Sella the cream of John’s books on the history of science.

Alwyn Davies

GERRY KING
1929-2010
Gerald King came to University College from Highgate School in 1945 to take the new three year special degree in Chemistry. This replaced the condensed two year course introduced during the war. He obtained his degree in 1948 with first class honours and stayed on to work with Ingold on the u.v. spectrum of acetylene. This was difficult work and almost justified the quotation from Dante that Gerry put over his door: “Lasciate ogni speranza voi ch’entrare” (All hope abandon, ye who enter here). However, his evidence for the bent excited state of acetylene provided the first clearly defined change in molecular structure during electronic excitation and led to his Ph.D. and to the award of the Ramsay Medal. The implications of these studies formed the basis of Ingold’s Presidential Address to the Chemical Society in 1954.

Unfortunately, the regulations at that time then required Gerry to do the equivalent of his military service by spending some time working for the government and he was appointed as a Scientific Officer to the Atomic Weapons Research Establishment. He found this a frustrating time because of what he considered to be arbitrary restrictions on what he could do and soon began to count the number of days before he would be free.

In 1954, he returned to University College as an assistant lecturer and worked on the construction of the 6 m Ebert spectrograph in the basement of the old chemistry department. This was intended to be used in studies of the spectrum of benzene but, in 1957, Gerry accepted a position as Assistant Professor at McMaster University in Canada before that work was complete. At McMaster, he was promoted to a Professorship in 1964 and was Chairman of the Department from 1978 to 1981. His research work at McMaster initially followed the lines of his Ph.D. studies with molecular orbital calculations on the excited states of acetylene but he later moved to laser spectroscopy making a number of high resolution studies of diatomic molecules, particularly iodine. He may, however, be best known for his book “Spectroscopy and Molecular Structure” published in 1964 and widely used for many years as an undergraduate text. In 1990, he retired from the Chemistry Department at McMaster. In recent years, his health became poor; he died (aged 81) on 30th October 2009 after several months in hospital.

Gerry married Gwyneth in London in 1954; they were together for almost 56 years and had one son and three daughters. He was an innovative spectroscopist, a leader in his field, and a good friend.

JHR
Tony Clemens was born in New Zealand and took his B.Sc. and Ph.D. degrees at the University of Canterbury. He then carried out post-doctoral work with Fred Bordwell at Northwestern University, Illinois and, in 1981, came to England to carry out further postdoctoral work here with John Ridd and John Sandall. He quickly mastered the techniques for studies of dynamic nuclear polarisation and showed that this approach with N15 nuclei revealed unexpected complications in many nitration reactions including the presence of radical intermediates and ipso-attack.

He returned to New Zealand in 1984 and joined the CRL Energy Company where he stayed for 26 years, eventually becoming the General Manager for Research. His work there on non-polluting low carbon technologies including particularly studies on the use of hydrogen as a fuel and investigations into the injection of carbon dioxide into deep coal seams, led to a number of awards.

Tony died on the 19th February 2010 at the age of 59, following a heart attack. His original and highly creative mind is shown not only by his approach to chemical problems but also by his numerous paintings, a number of which are on display in New Zealand. He is survived by his wife Joan and their daughter Anastasia.

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_Elsbeth Latimer_