Discovering, exploring and surveying caves was my main recreational activity when I went to Bedford College, University of London to study for an honours degree majoring in chemistry with physics and mathematics minors. My doctorate was awarded for a study on coordination compounds of nickel(II) and copper(II). Throughout the undergraduate and postgraduate years, my chemistry and caving were poles apart. Attracted to Australasia by the potential for discovering deep caves I was fortunate to obtain a position as a senior tutor-demonstrator in Inorganic Chemistry at The University of Sydney, where my research field continued to be coordination chemistry using rare earths and designer ligands that had been synthesized in the Organic Department.

In the early 1970s, my research underwent another and more significant change. I had met Australia’s leading speleologist, Professor J. N. Jennings from the Australian National University, who was of the opinion that those with a research background and the ability to descend deep caves were wasted unless they contributed to the understanding of that difficult-to-reach environment. With his support, I applied for and obtained an Australian Research Council Grant to study the banded iron sediments at the bottom of the then deepest cave in Australia, Odyssey Cave, Bungonia, New South Wales. Not only was it deep, but also its Precambrian atmosphere was inhospitable with high levels of carbon dioxide and low levels of oxygen.

... those with a research background and the ability to descend deep caves were wasted unless they contributed to the understanding of that difficult-to-reach environment.”
I christened my new research area speleochernistry. It is essentially analytical and environmental geochemistry in caves interfaced with many other scientific disciplines; primarily, it interfaces with the geosciences. To illustrate this, I will use the research my group, together with a multitude of collaborators, has carried out in the caves of the Nullarbor Plain, South and Western Australia. For example, it is believed that the Nullarbor Plain has been semi-arid to arid since it emerged from the ocean some 14 million years ago. Beneath its surface, there is an extensive saline aquifer of 200,000 km² (plate 3) and exceptionally large caverns (plate 4). In an arid environment, such caverns are unlikely to form by the accepted process of the solution of limestone (CaCO₃), as in the following equation:

\[
\text{CaCO}_3(s) + \text{CO}_2(g) + \text{H}_2\text{O} \rightleftharpoons \text{Ca}^{2+}(aq) + 2\text{HCO}_3^-(aq)
\]

On the arid Nullarbor at present, there are only modest amounts of the two essential forward reactants, water and carbon dioxide. Our aquatic analytical chemistry accompanied by modeling showed that mixing of Nullarbor waters already saturated with calcium carbonate but with differing concentrations of carbon dioxide could lead to undersaturation with respect to calcium carbonate, and hence the mixed waters had the potential to dissolve limestone and create caves.

Calcite (CaCO₃) speleothems were once thought to be rare in the Nullarbor Caves because it was expected that conventional sub-aerial calcite deposition was unlikely to take place in arid caves. However, we have identified a number of significant calcite deposits that can be dated with uranium series methods and used for carbon and oxygen stable isotope studies; the massive calcite in the core was deposited between 80,000 and 110,000 years ago. A mixing zone flowstone was also deposited in the same period and occluded into it were surface sediments that had been washed into the cave during severe flood events; dating studies showed that the flood frequency on the Nullarbor during that period was one severe flood approximately every 10,000 years.

Very dark brown, sometimes almost black calcite stalactites, stalagmites, and flowstone are common in many of the shallow caves (plate 6). Preliminary uranium-to-lead dating at the University of Melbourne of a sample of the dark brown calcite has indicated that it was deposited ~3.5 million years ago. Other studies have shown that at this time the Nullarbor climate was wetter. Our chemical studies have shown that the dark brown color is due to a humic compound indicating the presence of more abundant vegetation than exists above the caves at present.

Microbial mantles, (plate 7) consisting of ordered concentric rings of microcrystalline calcite formed around gelatinous "dreadlocks", were reported by cave divers to exist deep in the waters of the Nullarbor Aquifer. Our biomineralisation studies showed they were chemotropic bacterial communities, which precipitate the mineral calcite in a morphology that has not been previously reported and similar calcite bio-minerals have not been recorded elsewhere.

After carrying out research in deep and remote caves, I finally accepted that it is considerably easier to undertake research in caves that have been developed for tourism. The Jenolan Caves are accessible a few hours drive from Sydney making them ideal for honours, diploma of science and masters degree projects. As a member of the Social and Environmental Management Committee and the Scientific and Environmental Advisory Committee of the Jenolan Caves Reserve Trust, I could contribute to the management and preservation of the environment at Australia’s premier tourist caves. My research at Jenolan focused on how cave development and tourist activity impact on the cave environment – a change from basic to applied speleochernistry. These environmental and management projects provided excellent experience for students, especially those doing environmental science degrees.
In 1997, I was elected as president of the International Union of Speleology, the only Australian or woman to hold this post. This administrative position was a reluctantly taken but important career move as it allowed me to support the speleological ambitions of others: in the establishment of cave and karst research institutes, in raising funds for both scientific and exploration projects, and in the protection and conservation of caves throughout the World. Recently as a member of the International Union for the Conservation of Nature and World Commission for Protected Areas, I have contributed further to the conservation of caves by assisting in the successful inscription of the South China Karst – phase one for World Heritage and reviews of cave sites for both National and World Heritage.

In conclusion, the rigorous approach to research obtained through my chemistry undergraduate and postgraduate studies was directly transferable to my cave projects. Drive and the associated physical ability have allowed me to find and explore caves throughout the World. Combined, these have led to international recognition and immense satisfaction by allowing me to contribute to the understanding of the chemical reactions taking place in caves and to the management and preservation of caves.

Plate 5: Diver obtaining a sample core for dating from a calcite deposit at a depth of 22m. Photo Peter Rogers.

Plate 6: Black calcite shawls in Thampanna Cave, Nullarbor Plain, WA. Photo Julia James.

Plate 7: Microbial mantles in Weebubbie Cave, Nullarbor Plain, WA. Photo Peter Rogers.

Spring Back to Sydney Reunion 2008

Saturday 8th November
The University of Sydney

Spring Back to Sydney is a special reunion for alumni who graduated in a year ending in 8 (i.e. 1938, 1948, 1958, etc). It is a fantastic opportunity to revisit the campus, faculty or college and relive the unique experience with your fellow alumni. A full day of festivities, cultural and sporting events and family activities are planned and the School of Chemistry would like to be part of it. If enough people are interested the School will hold a one hour lecture followed by light refreshments.

Please contact Anne Woods by email at a.woods@chem.usyd.edu.au or telephone 02 9351 2755 if you are interested.
Sébastien Perrier

Sébastien joined the School of Chemistry in October 2007. He received his BSc from the Ecole National Supérieure de Chimie de Montpellier, France, in 1998, and his Degré D’Enseignement Approfondi (MSc) from the University of Montpellier the same year. He then moved to the University of Warwick, England, to undertake a PhD in transition metal mediated living radical polymerisation (also known as atom transfer radical polymerisation, ATRP), under the supervision of Professor Dave Haddleton. His project, sponsored by ICI, focussed on the study of copper catalysis in polymerisations, in order to produce polymeric surfactants for personal care applications.

In 2001, Sébastien moved to the University of New South Wales, Sydney, to work as Postdoctoral Fellow in the Centre for Advanced Material Design, under the direction of Professor Tom Davis. His project covered the kinetic and mechanistic study of a recently invented polymerisation technique, reversible addition fragmentation chain transfer polymerisation (RAFT), and its use in green solvents such as ionic liquids.

In 2002, Sébastien moved back to England, to take up an appointment as Lecturer at Leeds University, where he was promoted to Senior-Lecturer in 2005. He left Leeds University in 2007 to join the School of Chemistry as Associate Professor and Director of the Key Centre for Polymer Colloids (KCPC).

Sébastien’s interest in Polymer Science was instigated by the interdisciplinary aspect of the field. Polymers are large composite molecules which consist of a series of smaller molecules attached to one another (from the Greek poly: many and mer: unit). These macromolecules are all around us, and can be found in a diverse range of places, from the human body (proteins, peptides, and DNA are all natural polymers), to the latest computer micro-chips. Polymer Science sits at the crossroads between Physics, Chemistry, Mathematics and Biology. Its study requires input from all aspects of Chemistry.

Chemists are remarkably proficient at directing the synthesis of small molecules, but fine-tuning the structures of large molecules, such as those found in polymers, is far more taxing. Despite many years of research, the field of macromolecular engineering (i.e. the preparation of large molecules with strict control over their size and chemical groups) still faces many challenges. Nature provides endless examples of precisely engineered macromolecules. Proteins, for instance, contain amino-acid side-chains that are accurately positioned, often in a way that determines the proteins’ roles. Synthetic chemists have tried to recreate nature’s exceptional control over macromolecules, and in so doing they have designed several catalytic reactions that occur only within specific chemical groups. These new polymerisation techniques allow polymer chemists to design polymeric molecules with a similar degree of control to that available to organic chemists working on small molecules. It is now possible to use polymers both as individual molecules, or bundled together (as materials).

Sébastien has built a team of researchers whose projects vary from the design of organic and organometallic catalysts to promote these polymerisations; to the synthesis of active molecules; the design of polymeric architectures; and their use in applications as diverse as drug delivery, shampoos, computer hard-drives, glues, nanocomposites, surface-coatings, and many more!

The research group has now moved to The University of Sydney and joined the KCPC, thus adding its knowledge of polymer synthesis to the Centre’s expertise in colloids. After a few hectic months of settling down, the whole team is now looking forward to being part of the Chemistry family!
Chiara Neto joined the School of Chemistry in April 2007 as a lecturer in physical chemistry. Her research interests lie in the fields of surface and interface science, and in particular, interactions between interfaces in liquids, wetting and dewetting, pattern formation, and adsorption from solution.

Chiara received her BSc/Masters degree and PhD degree at the University of Florence, Italy. Her PhD thesis (December 2001) presents Atomic Force Microscopy experiments conducted in part at the University of Florence, under the supervision of Professor Piero Baglioni, and in part at the Australian National University, under the supervision of Dr Vince Craig. Her results on slip of simple liquids on solid surfaces, relevant for the understanding of flow in microfluidics devices and in confined biological systems, were published in a paper that has become a seminal contribution in the field of boundary slip.

In 2002-2003 Chiara worked as a postdoctoral fellow at the University of Ulm, Germany, in one of the world-leading groups in the field of thin film stability and dewetting (S. Herminghaus, K. Jacobs). Dewetting is the spontaneous process by which unstable liquid films break up and eventually reach their equilibrium state, which is a number of isolated droplets on the substrate (see figures a-d). Chiara contributed to the field with the study of a novel pattern, dubbed “satellite holes” (see figure e), that develops upon dewetting of thin polystyrene films.

After being awarded an Australian Postdoctoral fellowship, Chiara moved to the Australian National University, to work on developing nanorheology, a technique to measure liquid boundary slip based on a custom-modified atomic force microscope.

Recently, she has proposed a new approach to the patterning of surfaces that employs self-assembly processes, such as dewetting in thin polymer films, phase separation in block copolymers (image f), and adsorption from solution. This is a multidisciplinary project that includes aspects of surface and colloidal chemistry, materials science, polymer physics, and biology, and will potentially benefit any field where spatially- and chemically-structured surfaces are needed, from the development of bio-sensors to the fabrication of superhydrophobic surfaces.

(a)-(d) Time series of optical micrographs of a polymer film dewetting by nucleation on a silicon wafer. The inset shows a cross section of one of the holes obtained by atomic force microscopy (AFM). (e) AFM image of a “satellite bole” pattern developing in a thin polystyrene film. (f) AFM image of phase separation in a copolymer film.
Jim Eckert writes about

Chemistry Exams

100 Years Ago

A hundred years ago, exams in chemistry took place once a year, in the last week of Michaelmas Term, and the exam papers were included in the following year's University Calendar. Three of them are reproduced in the boxes. These are the papers set by third year chemistry students in December 1907, at the end of Professor Liversidge's final year in charge. The time allowed for each paper was 3 hours.

Liversidge, an inorganic and geochemist, was on home ground with Paper A and, if the question on candle, bunsen and blowpipe flames was vintage, even in 1907, the same can't be said of the question on radioactive elements. Henri Becquerel discovered radioactivity in 1896 and, with the Curies, had won the Nobel Prize for Physics in 1903. Marie Curie would be honoured again in 1911, this time with the Nobel Prize for Chemistry, for her work on Ra and Po.

There was much speculation in the early 1900s about the occurrence and origin of radioactivity and, in the Chemical Laboratory here, Douglas Mawson and Thomas Laby, right at the start of their own distinguished careers, were busy with a Wilson electroscope testing Australian minerals for activity. The paper reporting their observations was read before the Royal Society of NSW in 1904.

The chemistry of carbon compounds was examined in Paper B. By 1907, courses on organic chemistry had been delivered and examined at Sydney University for over 20 years but it was in no way Liversidge’s area and proper development of the subject here would not begin until the establishment of an Organic Chair in 1912.

Which leaves Paper C. This examined a course given on the History of Chemical Philosophy and Discovery. From time to time, attempts have been made to introduce the history and philosophy of science (HPS) into the formal chemistry syllabus as a compulsory subject in the third year. After all, knowing about the past should make it easier to understand the present and perhaps point the way to the future. The attempts have been short-lived. Today, HPS courses are offered at this University as separate options at Intermediate, Senior and Honours levels.

Exam papers, however, are only part of the story. You can read what the students themselves thought about exams a hundred years ago on the pages of Hermes, then the magazine.
CHEMISTRY III. C.—HISTORY AND PHILOSOPHY.

1. What was the phlogistic theory? Trace its development, mentioning its principal supporters.
   - Show how the discoveries of Priestley and others enabled Lavoisier to explain the phenomena of combustion and overthrow the phlogistic theory.

2. Trace the development of the doctrine of chemical proportion (Richter) to Dalton's atomic theory.

3. Give an account of the work of Berzelius. How does his electro-chemical theory compare with modern views?

4. Show how the valency of carbon and other elements came to be recognised through the work of Frankland (organo-metallic compounds), Kolbe, Kekulé and others.

5. Give an account of some of the more important synthetic organic compounds (other than alizarine and indigo) discovered within recent years.

6. What is known as to the assimilation of carbon by plants, and the nitrification of soils? What explanations have been given of the process of fermentation? What are enzymes, and how are they supposed to act?

In the photo below, from the University Archives, master photographer Harold Cazneaux catches an exam in progress in the Great Hall in 1927 and at the same time does justice to that most impressive of venues. My thanks to Reference Archivist Julia Mant for providing it.

Sources were the University Calendar of 1908 and the following:


Hermes editorial, Our Social Life, 12(4) (1906), 39.

My family emigrated from Ireland and laid down roots in Queensland, where I attended a small secondary-school on the outskirts of Brisbane. It wasn’t until I was studying for a BSc at the University of Queensland that I conducted my first chemistry experiment – I was immediately hooked. Synthetic organic chemistry was the topic that steadfastly held my attention; hardly surprising given that my father is in the building trade and the parallels between the two areas are many. My father and I both build structures that are complex, valuable and that hold the potential to change people’s lives – there is just the small matter of scale that separates his buildings from my molecules.

Knowing that chemistry was to play a dominant role in my future, I undertook a PhD at the University of Queensland under the supervision of Professor Bill Kitching. By making all possible isomers of a naturally occurring compound, and comparing the spectroscopic properties of each, were we able to definitively identify the pheromone of an economically damaging insect pest. It is remarkable that in this age of advanced spectroscopic techniques, synthesis retains a vital role in structure elucidation.

Post-doctoral study took me to the University of Nottingham and the laboratories of Professor J Stephen Clark. There I employed metathesis chemistry for the synthesis of polycyclic ethers. These imposing molecules possess intriguing biological profiles, but are isolated in such small amounts that synthesis is the only viable route to obtain useful quantities.

Moving to the University of Exeter I took up a position with Professor Chris Moody and in a collaborative project with Cancer Research UK, synthesised a number of analogues of the naturally occurring compound geldanamycin. Although this compound holds great potential as an anti-cancer agent, it suffers from some major short-comings, including low bio-availability. It is a clear example of the fact that no natural product is made for the benefit of mankind, and therefore it is highly unlikely that any natural product will be the optimal therapeutic agent against a given disease. Synthesis holds the power to fine tune the biological properties of such molecules and increase their effectiveness.

In September 2007 I resigned an Organic Teaching Fellowship at Nottingham and moved to my current position as Lecturer at the University of Sydney. My own research is based on the premise that building new compounds is not the major feat it once was. Instead, the challenge for the 21st century chemist is to build new compounds efficiently. To that end, I am developing a new asymmetric reaction to access a variety of pharmaceutically attractive structures, and applying known reactions in novel ways to help reduce the complexity inherent in natural product synthesis. My particular interest lies in the efficient synthesis of cyclic ethers of marine origin, such as yessotoxin, by the application of a short reiterative sequence.
Arthur Garske recently retired after fifty years’ service to the School of Chemistry, starting on February 3rd, 1958 and finishing on February 4th, 2008. Current members of the School and a few old friends farewelled Arthur and family at the Grandstand on his last Friday of work. I won’t try to guess who was the next-oldest or next-longest serving person present, but the very large turnout covered the whole spectrum of the School and was a testament to the high regard in which Arthur is held by us all. Happy retirement.

We welcome our new stores Technical Officer, Eric de Courcey, who started in January, and has been trying to absorb as much of Arthur’s accumulated wisdom as possible. This transition has gone well, and the essential service provided by the Chemistry store has continued smoothly in Jeff Armstrong and Eric’s hands.

We also welcome Dr Richard Payne to the School as our new lecturer in Chemical Biology. Richard arrived in February from the Scripps Institute. He is a synthetic organic chemist with research interests in glycopeptides and glycoproteins. Richard’s work will be described in a forthcoming issue of ChemNEWS, continuing our series of profiles of new academic staff. Dr Chiara Neto, Dr Christopher McErlean and Associate Professor Sébastien Perrier have articles in this issue.

The achievements of many members of the School have been recognised recently through promotion or external awards. Particular highlights are Professor Leo Radom who was awarded the 2008 David Craig Medal of the Australian Academy of Science for his work on the application of computational quantum chemistry to the study of chemical structures and reactions; and Kate Jolliffe who was promoted to Associate Professor, and also received a 2007 NSW Young Tall Poppy Science Award for her research, particularly developing molecules to better help cancer drugs attack cancer cells.

Lou Rendina was also promoted to Associate Professor, and will be celebrating with a period of Study Leave in the second half of 2008, spending some time at Oxford. Drs Chris Ling and Tim Schmidt were both promoted to Senior Lecturer, and I notice that they are either planning or are currently on Study Leave. Tim is in Orsay, France with the CNRS investigating the spectra of polyaromatic hydrocarbons, and Chris will be going to the Rutherford-Appleton Laboratories, also near Oxford. I think I see a pattern developing. Study Leave, or sabbatical, is an important opportunity for academic staff to concentrate on research, learn new skills and techniques, develop new collaborations, and recharge our intellectual batteries. I am delighted to see the academic staff using these periods to their best advantage, and spending time at world-leading research centres such as these.

I’d also like to congratulate Scott Kable on his promotion to Professor, and thank him for not taking Study Leave this year. As valuable as it is, we can’t have everybody going away at once.

Professor Greg Warr
Head of School
A
fter 20 years as an honorary research associate within the School, the time has come for David Sangster to finally hang up his gloves and his lab coat. David’s career in chemistry has spanned more than 60 years, since he first enrolled as a science student at the University of Adelaide in 1942. His story is a fascinating one, mirroring postwar changes in both international and Australian science and society.

David completed his schooling at St. Peter’s College, the same school which the Nobel prizewinners Lawrence Bragg and Howard Florey had previously attended. From there David entered the University of Adelaide and began studying chemistry in 1942. At an early stage he must have made quite an impression amongst his lecturers, because while he was still a first year student he was appointed as a “cadet” and the following year he was already virtually running the second and third year practical classes in Physical Chemistry.

In 1946 David first began work in the field to which he would later devote most of his career, radiation chemistry, when he started his honours project in chemistry on the topic of “Making and using radioactive elements to study chemical kinetics”. In 1947 he graduated with a BSc with first class honours.

While David was at Adelaide University he met his future wife, Christobel, who was studying for a BSc in botany at the time. They were married in Adelaide in January 1948 and she was his companion in all of his life’s adventures for the next 59 years. Together they had 3 sons, Antony (born 1953), Nicholas (born 1955) and Peter (born 1960). Sadly, Christobel passed away in May 2007.

At the time David finished his undergraduate studies at the University of Adelaide it wasn’t possible for Adelaide BSc graduates to continue postgraduate studies towards a PhD. Students who wanted to obtain a PhD had to continue their studies in England. In David’s case he obtained a position as a Research Officer with the CSIR (before the Organisation was added) in its Section of Nuclear Research due to the experience he’d already gained in radiochemistry. He worked at CSIR Soils Division at the Waite Institute, Adelaide until, in November 1948, he was seconded to the Atomic Energy Research Establishment (AERE) at Harwell, England, which was short of qualified chemists. The intention was to assist Britain with its atomic energy programme and to form the nucleus for any future Australian programme.

The British used the Australians working at Harwell as a task force to investigate problems which needed urgent solutions, and David’s work included the chromatographic separation of Group 8 fission products and the separation and purification of $^{210}$Po, the same element recently allegedly used to poison the former Russian spy Alexander Litvinenko.

It was exciting times at Harwell in the late 1940’s and 1950’s. The AERE was a very interdisciplinary place and David’s colleagues had a variety of talents. Some were physicists, some chemists, some engineers, some spies, or a combination of these. One of the most famous of the last was Klaus Fuchs, who had emigrated to Great Britain in the 1930’s to escape the Nazi regime and during the war had worked on the Manhattan Project in the USA. After the war he returned to England and, at the time David started work in Harwell, Fuchs was the Head of the Theoretical Physics Division there. In 1950 he was arrested by British MI5 officers and convicted of passing secret information on the development of the bomb while he was still in the USA to Russian KGB agents.

As part of the British programme of atom bomb tests at Maralinga, David returned temporarily to South Australia in 1953 to carry out radioanalyses of nuclear weapons’ clouds in order to determine the distribution of fission products. At Harwell David also carried out such analyses, at one stage on the cloud of a Russian bomb. The handsome young man shown at the bottom of the next page is David at his desk in Harwell in 1957. He spent a total of 8 years there.

At the beginning of 1957 David returned to work permanently in Australia at Lucas Heights with the Australian Atomic Energy Commission (AAEC), predecessor of ANSTO. There he worked as the Radiation Chemistry Group Leader within its Isotope Division and later as Section Head of Irradiation Research and Technology. At one stage he spent six weeks visiting the Argonne National Laboratory in the USA studying pulse radiolysis – the radiation analogue of flash photolysis – and then set up and operated a facility at Lucas Heights. Many visiting researchers came to use it.
After many years of working with the AAEC, David officially transferred to the CSIRO in 1982 although he stayed at Lucas Heights and became the Officer-in-Charge of the Lucas Heights Unit of its Divisions of Chemical Physics and Materials Science and Technology. From 1988 he was working for the Division of Chemicals and Polymers.

In getting involved in polymer chemistry David was influenced by the late Jim O’Donnell, who had joined the University of Queensland and who was extolling the importance and fascination of polymers. David didn’t need much convincing, though, because he was aware that Australian industry was spending more money on the irradiation of polymers than on any other aspect of the nuclear age except uranium mining. Jim and David were later to write an introductory textbook, *Principles of Radiation Chemistry* which was most successful in Japanese translation (1980).

It was through David’s attendance at Australian Polymer Symposia and Physical Chemistry Conferences that he first met Don Napper and Bob Gilbert. David’s connections with the School of Chemistry at Sydney University started in the early 1960’s. While at Lucas Heights, he supervised the research of PhD students and postdocs from universities all around Australia, including Sydney. One of his most fruitful collaborations was with Don Napper, who was later appointed professor of physical chemistry, and with Bob Gilbert, until last year Director of the Key Centre for Polymer Colloids.

It was while he was still a student at Adelaide University that David’s long association with the Royal Australian Chemical Institute (RACI) began. He first joined as a student member in 1942, long before the existence of the RACI Polymer Division, in which he was later to be so active. The seventieth anniversary of his membership is, therefore, only a few years away. In 1975–76 he was NSW Branch President and a Member of the RACI Executive Council. In 1980 David was elected Chairman of the National RACI Polymer Division. He has received two citations for excellence from the Polymer Division. In 2006, in recognition of David’s contributions to the field of polymer radiation chemistry and emulsion polymerisation, the RACI Polymer Division renamed its “under forty” Award as the David Sangster Award for Achievement in Polymer Science and Technology.

David finally retired from Lucas Heights in 1989. In recognition of his long service and his contribution to radiation chemistry, a research conference was held and a special commemorative issue of the journal *Radiation Physics and Chemistry* was dedicated in his honour. Later he was elected an Honorary Fellow of the Australian Institute for Nuclear Science and Engineering (AINSE), which played an important role in his career.

At the time of his retirement David had become such a valuable research collaborator for Don Napper’s and Bob Gilbert’s group that they couldn’t afford to lose him. Therefore, Don nominated him as an Honorary Research Associate within the Division of Physical Chemistry at the University of Sydney. He has been here now in that role for nearly 20 years. During his time within the School, David has continued researching, supervising postgraduate students, writing research papers (approximately 100 to date) and giving presentations at conferences (roughly 200).

Now at age 83 David is putting the finishing touches on what he thinks will be his last scientific paper. After that he has decided to bring his active research career in chemistry to a close and intends to embark on a new research career in family history, a career to which up until now he could only devote himself part-time. He also has a further active role as grandpa to seven grandchildren. We wish him much success in these new careers and we thank him for his dedication and friendship to everyone within the School and for all of his many contributions to chemistry.

David himself has asked me to record his appreciation and thanks to the many who have contributed to his life in so many ways. He is eternally grateful.

(To read the full version of David Sangster’s story please visit http://www.chem.usyd.edu.au/research/awards.html).
Congratulations to:

Associate Professor Sébastien Perrier who has been awarded the Macro Group UK Young Researchers Medal in recognition of his contributions to Polymer Chemistry.

Emeritus Professor Hans Freeman, FAA, who has been awarded the 2007 RACI Distinguished Fellowship Award.

Associate Professor Tony Masters who has been awarded the 2007 RACI Centenary of Federation Teaching Award (Tertiary).

Ms Natasha Sciortino, Postgraduate student, who has been awarded the 2007 Ludo Frevel Crystallography Scholarship. This scholarship is awarded each year to support the education and research program of promising graduate students in crystallography-related fields.

Dr Hugh Harris has been awarded the Spicer Award by the Stanford Synchrotron Research Laboratory for the best young researcher in synchrotron science.

Associate Professor Kate Jolliffe on winning a 2007-2008 Young Tall Poppy Science Award. The awards were presented by the NSW Minister for Science and Medical Research, Verity Firth and the NSW Minister for Education and Training, John Della Bosca.

Mr Andrew McLeod, 2007 Honours student, who was part of the USyd team that won the Sir Harry Gibbs National Moot Competition, held at Victoria University. Andrew was awarded Best Speaker in the Grand Final. The Competition involved law schools from around Australia mooting issues of constitutional law.

Ms Jill Halliday, Ms Jeannette McAlpine and Ms Alexandra Yeung who have won the C.G. and R.J.W. Le Fèvre Postgraduate Student Lectures Award. These lectures were established in 1985 following a gift of $2 000 from Emeritus Professor R.J.W. Le Fèvre and are awarded on the recommendation of the Sydney University Chemical Society.

Professor Scott Kable, Dr Adrian George, Dr Justin Read and Dr Simon Barrie (ITL), who along with four researchers from three other universities, have been awarded a Carrick Program Award for their work on the ACELL project. This is the University’s first Carrick Award. This award was presented to them by the Federal Education Minister last November.

Associate Professor Lou Rendina and Associate Professor Michael Kassiou who have been awarded a research grant from the Cure Cancer Australian Foundation for their project “The Targeting of Brain Tumours by a New Class of Agents for Boron Neutron Capture Therapy”.

Professor Leo Radom who won the 2008 David Craig Medal from the Australian Academy of Sciences for research in chemistry for work in the field of theoretical and computational chemistry. Professor Radom has made significant contributions to the application of computational quantum chemistry procedures to the study of chemical structures and reactions.

Farewell to:

Mr Arthur Garske, Technical Officer, who retired in February this year after 50 years of service within the School of Chemistry. We wish him all the best. To read more about Arthur please refer to ChemNEWS Issue 10, Autumn 2007.

Welcome to:

Mr Eric De Courcey, Technical Officer, who has taken over from Arthur in the Store Room.

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**General queries to:**

Chemistry Alumni, School of Chemistry
The University of Sydney
NSW, 2006 Australia

Email: Alumni@chem.usyd.edu.au
Telephone: +61 2 9351 2755
Facsimile: +61 2 9351 3329

Chemistry Website: http://www.chem.usyd.edu.au
Chemistry Alumni Website: http://alumni.chem.usyd.edu.au/
University of Sydney Alumni Website: http://www.usyd.edu.au/alumni/