

## **VALE**

Staff and students were saddened to learn of the death of Martin Hitchman in August. Martin graduated BSc majoring in Chemistry as one of our students, and has been a staff member of the School for more than six years. We express our sympathy and support for Martin's family and friends, and appreciation of Martin's contribution to the education of our students and contributions to the effective operation of the School.

## **NEWS FROM FORMER UTAS GRADUATES:**

**Associate Professor Peter Byers:** Peter is a PhD graduate from Professor Canty's research group, and he reports that he has been promoted to Associate Professor from October 1 and has been appointed Head of the School of Chemistry at the University of Birmingham for three years.

**Dr Mel Denney:** Hi from Seattle! Guy and I have been here for almost 10 months now (wow- time really flies) and it is starting to feel a bit more like home. My research is coming along well and I am currently writing a communication about what I've done here so far. I have also been doing a little teaching, filling in for a professor while he has been away. It is a third year inorganic class of about 100 people. It was daunting at first, but I am really enjoying it now (which is good since I'm going to be teaching this entire course by myself during the winter quarter - 27 lectures in all). Guy (who got his BComm from UTas last year) is working at State Farm insurance (for my supervisor's husband!) and is going to be assisting in the introduction of new financial products. He is also studying towards his Certified Practicing Accountant accreditation.

We've been to a few baseball games and really enjoyed watching the American League Championship Series between the Yankees and the Redsox on TV (Dougie will know what I'm on about!). We also went to a college football game to see the Washington Huskies play - very cold but great fun!

We have a spare room which is always available to our friends from Tassie- so if you're in the US during the next couple of years drop in and say "g'day" - we'd love to see you!

## **CONFERENCES & FIELD TRIPS**

**A/Prof Brian Yates** attended the American Chemical Society conference in Philadelphia in August. He gave one invited talk in the computational chemistry section and a contributed talk in the organometallic chemistry section. It was pleasing to see how some of our work in Tasmania has been picked up on by other workers. Of particular interest at the conference was a symposium on N-heterocyclic carbenes (NHCs) which has been central to the PhD work of David Graham and Alison Magill. It was also great to catch up with Kingsley Cavell who celebrated his birthday while at the conference!

**Mirek Macka** and **Rosanne Guijt** attended the  $\mu$ TAS 2004 conference (8<sup>th</sup> International Conference on Miniaturised Systems in Chemistry and Life Sciences), September 26-30 in Malmö, Sweden, where the number of participants increased to 753, with even 4 attendees from Australia.

Over the last 10 years, the research field has broadened from having a strong focus on the development of chip-based electrophoresis systems to a multidisciplinary field where developments in nano - and microtechnology are applied to areas where miniaturisation really makes a difference, such as in life sciences. The move to life sciences resulted in an increase of female participants to a bit under 13%. Various research groups work on developing cell-based microsystems, including cell manipulation and transport, on-chip culturing and even complete systems for culturing with feedback based on analysis and continuous monitoring. With the entrance of more scientists without access to sophisticated clean room facilities, low-tech microdevices made from silicone rubber were found to be extremely popular. On the fundamental level, a significant number of contributions dealt with fluidic transport and molecular interactions in nanometer-scale channels. We got many positive reactions to our poster on the work initiated by Oscar Potter's summer project on conductivity gradient focusing, that attracted a lot of interest.

Directly after the conference, Mirek and Roos joined a guided tour at the Department of Micro and Nanotechnology, Technical University of Denmark (MIC). This institute is one of the major players in the development of miniaturised optical systems.

The same evening, we flew to Stockholm in Sweden to visit Per Andersson at Gyros. Per worked as a postdoc within ACROSS several years ago. Gyros manufactures analytical systems using cd-like microfluidic devices driven by centrifugal forces. Per guided us around through the company, showing both the testing labs and the clean room for fabrication of the "cd's", and taught us how to use their experimental set-up.

After Stockholm, Mirek flew back to Australia, and Roos went to the Netherlands to visit her family and some Dutch universities. She gave a presentation at Groningen University in the group of Prof. Sabeth Verpoorte, her thesis supervisor. Sabeth started up microfluidics-oriented research 1.5 years ago, and infrastructure-wise, we are not far behind with our UTAS chip lab. At Utrecht University, Roos visited the Biomolecular Mass Spectrometry group of the Bijvoet Centre, having the highest density of mass spectrometers within the Netherlands. She also gave a presentation at the Kluwyer Institute for Biotechnology, Delft University of Technology for the group where she did her PhD.

### **2004 RACI TITRATION COMPETITION**

The annual Titration Competition this year involved 50 teams from a total of 11 schools and colleges throughout Tasmania. There were two sessions held in Hobart with the 1<sup>st</sup> year lab being full on both occasions. There were two divisions, High School (years 7-10) and Senior Secondary (years 11-12). The top three teams from each section were:

High School:	1 <sup>st</sup> Ogilvie High School (Hobart)
	2 <sup>nd</sup> St Michael's Collegiate School (Hobart)
	3 <sup>rd</sup> St Michael's Collegiate School (Hobart)
Senior Secondary:	1 <sup>st</sup> Elizabeth College (Hobart)
	2 <sup>nd</sup> Elizabeth College (Hobart)
	3 <sup>rd</sup> Guilford Young College (Hobart)

Five of these teams also represent the top 10% of teams overall and participated in the National Finals that were held on the 28th October. This year one of the Elizabeth College teams proved to be the top team for 2004 and received an Excellent Team award. The Ogilvie High School team was also awarded an Excellent Team award. Interestingly, the same Ogilvie High School team was ranked 10<sup>th</sup> nationally in 2003.

Individual certificates were awarded to competitors who were within 1% accuracy of the statewide median. This year 63 students were within this margin.

Thanks to all who helped out during the various stages of the competition. It was very much appreciated. The RACI Tasmanian Branch would especially like to thank the sponsors of this year's Titration Competition, Crown Scientific and Cospac. A special thanks is also extended to Mr Graham Armstrong whose enthusiasm and hard work again made the competition a success.

### **THANKS TO SEMINAR SPEAKERS**

**Dr Michael Breadmore**, University of Tasmania

"The Future of Miniaturised Electrophoresis in the Clinical Lab"

**Doug McLean**, University of Tasmania

"Deposition of Pinus Radiata Wood Extractives"

**David Vercoe**, University of Tasmania

"Study of the Interactions Leading to Wood Resin Deposition"

**Alison Magill**, University of Tasmania

"Synthesis and Decomposition Behaviour of Methylpalladium(II) *N*-Heterocyclic Carbene Complexes"

**A/Prof Glenn Hefter**, *Zinifex Lecturer*, AJ Parker CRC for Hydrometallurgy, Murdoch University

"Volumes of Electrolytes and Ions in Solution"

**Dr Roger Mulder**, *Woolmers Lecturer*, CSIRO Molecular Science

"From Peptides to Small Molecules via Macrocycles: A Strange NMR Journey"

**Joe Hutchinson**, University of Tasmania

"Latex-Coated Stationary Phases for Preconcentration and Separation in Capillary Electrochromatography"

**Dr David Graham**, University of Tasmania

"Activation of Dinitrogen via Molybdenum Complexes - A Theoretical Investigation"

**Lauren Wise**, University of Tasmania

"N-Heterocyclic Metallocenes of the Lanthanides Based on the 4-Azapentalenyl Anion"

#### **Honours seminars**

**Damien Stringer**, "Trans-dioxaporphyrinogen Stabilised Lanthanide Imide Complexes"

**Bryce Lockhart-Gillett**, "Ruthenium Chalcogenide Clusters, the NLO Material Revolution?"

**Brendon Gourlay**, "New Synthetic Technology For The Synthesis of Bicyclic Alkaloids"

**David Schaller**, "Separation of Drugs and Metabolites in Biological Fluids Performed by In-line Coupled SPE-CE"

**Lynsey Maher**, "Interactions Between Wood Resins and Fixatives"

**Damien Viney**, "What's in the Water? The Separation and Characterisation of Pulp and Paper Wastewater Effluents"

**Roderick Jones**, "Novel Heck Catalysts Containing Heteroleptic N/S Ligands"

**Sarah Kellaway**, "Relating Antarctic Sediment Contaminant Levels to DGT Sampler Uptake"

### ***RACI YOUTH LECTURE***

***BY THOMAS RODEMANN***

The annual RACI Tasmanian Youth Lecture series was held from 2<sup>nd</sup> to 6<sup>th</sup> August and was enjoyed by over 750 students around the state, including lectures at the University in Launceston and Hobart. The lecture was titled "Diamonds, Drugs and Dirty Deeds: Forensic Science in the 21st Century" and was presented by Dr John Watling, Professor of Forensic Science at Curtin University of Technology. The audience was kept on the edge of their seats by presentations of real crimes associated with murder, explosions, burglary, drugs, art, gold and diamond theft, which were eventually solved by using modern forensic science. Dr Watling illustrated that the use of Laser Ablation Mass Spectrometry technology on traces of inorganic samples is a breakthrough in forensic science that can place certain objects or suspects at a crime scene. The conclusion of the lecture was: "The perfect crime just got harder to commit!"; unless of course audience members were carefully taking notes on how to avoid leaving a trace at crime scenes...

### ***MELBOURNE CUP DAY LUNCHEON***

***BY JARROD COAD***

The race that stops a nation – and the School of Chemistry! The 2004 Melbourne Cup was marked by two events in the Hobart building – firstly, our Honours students finished their theses (congratulations all!) and secondly, a very relaxing luncheon organised by Jarrod Coad.

Twenty-two people attended the festivities in honour of the Cup, enjoying cheese, chicken, croissants, champagne and beer. Around one o'clock, the delectable smell of barbecued chicken began drifting through the building, proving a distraction to many, as volunteers Jason Smith, Sarah Ng and Lynsey Maher carved up quite a few birds for the table. Whether or not all the chicken Jason carved made it to the luncheon is another question...

Within half an hour the tearoom was filled with hungry people, and the bar was running strongly as everyone relaxed before the big race. Biscuits, cheeses and dips were quickly disposed of by the hordes before the chicken and croissants were served. All present ate their fill, although the plates of chicken mysteriously kept ending up on the table occupied by several academics for some reason.

After lunch, we adjourned to the cooler environs of C1, where we could watch the race on the 'big screen'. With quite a bit of money riding on the race – two each of the \$1 and \$2 sweeps – there was much interest in the results to come. Barely four minutes after the gates opened, Makybe Diva had won the cup for the second year running, and the clamouring of the winners for their prizes was only drowned out by the sorrow of those who had lost their shirts on yet another dodgy nag...

Winners of the sweeps included Karen Stack, Dave Graham, Emily Hilder and Jennifer Yates, whilst the losers included most of the rest of us.

In all, a good afternoon 'at the races'!

## **CHEM CLUB ACTIVITIES**

**BY DAMIEN STRINGER**

Well, the year has rolled by leaving me with the final note from the Chem Club this year! Since the last edition we've held a couple of BBQs and the all-important Brew Off!! A large turnout of home brewing specialists made it to this year's event ensuring the competition was of a high standard! Congratulations to James "Who is James Gill?" Gill for taking out the best brew for the night! Special mention to Joe Hutchinson and his plum wine for a valiant effort. Thanks to our judges, Dave Graham and Dave Vercoe who needed little persuasion to enjoy the free home-brewed beer all night! Thanks also to the team at Brew-By-You for their very generous support of the event!



The annual chemistry dinner has also come and gone since the last edition of ChemNews. Thanks to Bridie-O'Reillys for hosting us for what was an enjoyable night!

Finally, I'd like to thank everyone who attended our events throughout the year, we hope you enjoyed them!

**Now what exactly are they doing? .....**



**Well known Honours student.....  
contemplating thesis content? .....  
or Post honours Depression plans for 2005? ..**

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