

Editorial: The Australian and New Zealand Society for Mass Spectrometry conference—a tradition of over thirty years

Richard A.J. O'Hair

School of Chemistry, University of Melbourne, Victoria 3010, Australia. E-mail: rohair@unimelb.edu.au

Introduction

As convenor of the 19th meeting of The Australian and New Zealand Society for Mass Spectrometry (ANZSMS), it is a great pleasure to introduce this special edition of the *European Journal of Mass Spectrometry (EJMS)* which is devoted to papers presented at this conference. The same rigorous reviewing standards of *EJMS* were applied to all

submissions and several manuscripts did not make it into this issue. The order of the papers published in this issue follows their chronological order of presentation.

For the unfamiliar reader, the aim of ANZSMS is to promote mass spectrometry by providing contact with local and international leaders in all areas and providing a forum, through its meetings, for the presentation of research in mass spectrometry and related disciplines. Table 1 reveals that the

Table 1. List of venues and dates of past ANZSMS conferences.

1	Macquarie University	Sydney	August 1971
2	Victorian College of Pharmacy	Melbourne	February 1973
3	Australian National University	Canberra	January 1975
4	Victoria University	Wellington, NZ	January 1977
5	University of Queensland	Brisbane	August 1978
6	Flinders University	Adelaide	February 1980
7	University of New South Wales	Sydney	August 1981
8	Monash University	Melbourne	February 1983
9	Australian National University	Canberra	August 1984
10	University of Otago	Dunedin, NZ	August 1986
11	University of Queensland	Brisbane	May 1988
12	University of Wollongong	Wollongong	February 1990
13	Flinders University	Adelaide	February 1992
14	La Trobe University	Melbourne	February 1994
15	University of New South Wales	Sydney	September 1995
16	University of Tasmania	Hobart	February 1997
17	Thredbo Alpine Village	Thredbo	February 1999
18	Legends Hotel	Main Beach, Surfers Paradise	February 2001
19	Erskine House	Lorne	February 2003

society has been successful in this aim as it has held regular (nearly biennial) meetings since 1971.¹ As such, it is one of the oldest mass spectrometry societies in the world and is a founding member of the International Society of Mass Spectrometry (IMSS).² Although this brief editorial is not intended to be a historical overview, it is worth noting that Australia has a proud tradition of mass spectrometry dating back to pioneering studies by Professor James Morrison and colleagues at the Council for Scientific and Industrial Research (CSIR, later CSIRO) where a CEC21102 mass spectrometer was installed in 1949. The CSIR team developed a range of novel applications for mass spectrometry as described in an article by Professor Morrison.³ Professor Morrison's many important contributions to mass spectrometry have been recognized by a special honour issue⁴ and by the establishment of the Morrison Lecture, which is presented as a Plenary at the Society's Conference. The Morrison Lecturer is selected and sponsored by the Central Committee of the Society and Table 2 lists all the past Morrison Lecturers.

The ANZSMS19 scientific program

Although the full conference program and lists of delegates are available from the ANZSMS website,⁵ I thought it worthwhile to briefly discuss some of the highlights of ANZSMS19. The conference was held from February 2–6, 2003 in Lorne, Victoria, a beautiful seaside town surrounded by forest ranges and located on the world famous Great Ocean Road. The scientific program was divided into the following thematic sessions: Fundamentals (Monday morning), Instrumental (Monday afternoon), Geochemistry (Tuesday), Analytical (Wednesday) and Biological (Thursday). Each session commenced with an invited plenary lecturer and some sessions had additional invited plenary or

keynote lecturers. Professor Helmut Schwarz (Technische Universität Berlin) presented the plenary lecture "Elementary Steps in Metal-mediated Oxygenation of Hydrocarbons: An Intersection of Experiment and Theory". Professor Schwarz's work has been reviewed recently.⁶ Professor Peter B. Armentrout (University of Utah) gave an invited keynote lecture on the "Bond Energies of Molecular Fragments to Transition Metal Clusters". Elements of his talk can be found in his paper, which appears in this issue. Dr Gary J. Van Berkel's (Oak Ridge National Laboratory) plenary lecture was entitled "Recent Developments in Ionization Methods for Mass Spectrometry: An Overview and Prospects" and provided an excellent snapshot of the state of ionization methods. This overview also appears as a paper in this issue. Dr John M. Hayes (Woods Hole Oceanographic Institution) presented a plenary lecture on "Isotope-Ratio Monitoring: Techniques and the Biogeochemistry of ²H, ¹³C, and ¹⁴C (via AMS)". Although Dr Hayes was unable to provide a paper for this issue of *EJMS*, interested readers are directed to a review.⁷ Professor Fred W. McLafferty's (Cornell University) plenary lecture was entitled "Analytical Mass Spectrometry: Top Down MS/MS with Electron Capture Dissociation". Most readers will be aware of the power of the ECD technique which has been previously reviewed.⁸ Dr Paul A. D'Agostino (Defence Research Establishment, Suffield, Canada) presented a plenary lecture on "LC-ESI-MS Analysis of Chemical Warfare Agents". Paul's presentation appears as a paper in this issue. Professor Margaret Sheil (University of Wollongong) presented the Morrison plenary lecture on "Electrospray Ionisation Mass Spectrometry of Gas-Phase Macromolecular Complexes: Progress, pitfalls and prospects". Professor David H. Russell (Texas A&M University) not only presented a plenary lecture entitled "Ion Mobility-Mass Spectrometry: Challenges and Design Considerations for Future Instrumentation", but also presented a regular paper. The latter appears in this

Table 2. Previous Morrison lecturers.

Lecturer	Lecturer's Affiliation	Year	Conference Venue
Michael Guilhaus	University of New South Wales	1990	Wollongong
John MacLeod	Australian National University	1992	Adelaide
Tom Baer	University of North Carolina	1994	Melbourne
Bill Compston	Australian National University	1995	Sydney
John Bowie	University of Adelaide	1997	Hobart
John Traeger	La Trobe University	1999	Thredbo
Roger Summons	Australian Geological Survey Organisation	2001	Queensland
Margaret Sheil	University of Wollongong	2003	Lorne

issue. Dr. Richard S. Johnson's (Immunex Corporation) sense of humor showed in the title of his plenary lecture: "ICAT™, ICRAP, ICROC: Evolving Methods for Cysteine Capture and Stable Isotope Incorporation for Relative Protein Quantitation". Dr. Gavin E. Reid (Ludwig Institute for Cancer Research, Melbourne) gave the last invited keynote lecture entitled "Selective Extraction of Labelled Entities by Charge Derivatization and Tandem Mass Spectrometry (SELECT): A Novel Approach For Identification and Quantitation of Differential Protein Expression in Proteomics".

ANZSMS19 conference dinner

We followed tradition and had the conference dinner on the final night. This provided an opportunity to wind down and further socialize. We were very fortunate to have after-dinner talks by two outstanding mass spectrometrists: Professors Morrison and McLafferty. Both provided insights into the history of mass spectrometry and the human side of the science profession through humorous examples. Unfortunately, I was unable to twist either of their arms to write something for this issue of *EJMS*. Hopefully they plan to write down their anecdotes for future generations of scien-

tists. We will, however, record for posterity Stewart Walker's music composition entitled "McLafferty's Rearrangement" with which he serenaded Professor McLafferty on a fiddle. As far as I am aware, this is the first musical composition dedicated to a gas-phase reaction occurring in a mass spectrometer and so we have included the score with Stewart's permission (Figure 1).

ANZSMS19 student awards

The quality of the student talks and poster presentation was very high and made the job of the judges challenging. In the end, Mr. Tom Waters won the Best Student Talk for his presentation on "Gas-Phase Catalysis—Investigating the Site of Reaction in Mixed Metal Oxide Ions", while Mr. Ivan Kempson won the Best Student Poster for his presentation on "ToF-SIMS Analysis of Hair from Archeological Remains". Professor Morrison presented the awards to Tom (Figure 2) and to Ivan (Figure 3).

On a final note, Derek Nelson was a stalwart of our ANZSMS conferences, having attended 18 of the 19 conferences. He often gave the last talk of the conference (for at least six conferences), which was always a lighthearted take on mass spectrometry and which would be full of wit. I seem

McLafferty's Rearrangement - Composed and performed for Fred McLafferty at the ANZSMS 19th Conference Dinner, Lorne, Australia
The original six-bar tune is rearranged each time it is played Stewart Walker 6th February 2003

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Figure 1. Score for "McLafferty's Rearrangement" courtesy of Stewart Walker.



Figure 2. Professor Morrison presenting the award of best student talk to Mr Tom Waters. Photograph courtesy of Veronica Borrett.



Figure 3. The author and Professor Morrison congratulating Mr Ivan Kempson for his award of the best student poster. Photograph courtesy of Veronica Borrett.

to recall that at one conference he showed a mass spectrum of an ant generated through the use of a direct insertion probe. Even though Derek was unable to attend ANZSMS19, we did enjoy several humorous moments throughout the conference. Stewart Walker may well be a candidate for taking over from Derek Nelson. The abstract for his talk entitled ““LASTGASPOLOGY” — DEVELOPMENT OF GASEOUS GC/MSN TECHNIQUES FOR FORENSIC APPLICATIONS” did not prepare the audience for a slight digression into the use of crocodile semen by the ancient Greeks to combat erectile dysfunction problems. Stewart posed a number of “seminal” questions such as: How could they be sure they were buying crocodile semen? How could they know the purity of their ‘drug? And how did they get the crocodile semen in the first place?”⁹

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as well as the editor-in-chief (Peter Derrick) and publisher (Ian Michael) for making this special issue of *EJMS* possible.

References and footnotes

1. Full details of our society and an archive of past conferences are available on the web site: <http://www.latrobe.edu.au/anzsms>
2. See IMSS website: <http://www.imss.nl/charter.html>
3. J. Morrison *Org. Mass Spectrom.* **26**, 183 (1991).
4. For an overview of Professor Morrison's work, see pages vi–xi in the introduction to his 75th Birthday honour issue: *Int. J. Mass Spectrom.* **194**(2/3) (Ed by J.C. Traeger) (2000).
5. Details of ANZSMS19 are found at: <http://www.latrobe.edu.au/anzsms/Conferences/ANZSMS19/ANZSMS19.html>
6. S. Shaik, S.P. de Visser, F. Ogliaro, H. Schwarz and D. Schröder *Curr. Opin. Chem. Biol.* **6**, 556 (2002).
7. J.M. Hayes, *Rev. Mineral Geochem.* **43**, 225 (2001).
8. F.W. McLafferty, D.M. Horn, K. Breuker, Y. Ge, M.A. Lewis, B. Cerda, R.A. Zubarev and B.K. Carpenter, *J. Am. Soc. Mass Spectrom.* **12**, 245 (2001).
9. Stewart Walker has since informed me that the Ancient Greeks used goose tongues, while it was the Medieval Italians who used crocodile semen. See: J.P. Jarrow, R.A. Kloner and A.M. Holmes, *Viagra: how the miracle drug happened & what can it do for you*. M. Evans and Company Inc., New York, USA, p. 4 (1998).