

# *THE AUSTRALIAN METROLOGIST*

**Issue 10 – February 1997**

Introductory paragraphs to stories and comments in the paper version of

## **TAM, "The Australian Metrologist"**

- *Please see the magazine for the full story!*

### **Presidents Column - by John Miles**

It is difficult to balance the need for regular changes in a committee against the negatives of breaking up a good team. I therefore had mixed feelings when the 1996 AGM elections saw Graham Harvey, John Mitchell and Horst Sieker step down from the national committee, to be replaced by Jim Gardner, Carol Sieker and Alex Smart. Graham, John and Horst have served on the committee since the MSA began in 1993. They each have made a unique and invaluable contribution to our Society in its formative stages and should be proud of their achievements. I would like to thank them on your behalf and I shall personally miss working with them very much.




### **Editors Column - by Jack Deller**

In Issue 9 of TAM I made a request for assistance in putting our magazine together. I am pleased to announce that some help has been forthcoming and we are slowly gathering a team of sub-editors to cover various columns in the magazine.

### **New Committee Members**

The Annual General Meeting last November regrettably saw three of our original committee members (John Mitchell, Graham Harvey and Horst Sieker) leave. All of them have made a significant contribution to the Metrology Society and I'm sure we all extend them our sincere thanks.

However, three new people have joined the team and we thought you might like to know who they are. To read a little about them you will need to see **TAM**.

-  Dr Jim Gardner is our new Vice-President
-  Mr Alex Smart quoted as "currently enjoying his 59th voyage around the sun" is a welcome addition to the committee.
-  Ms Carol Sieker is continuing a recently started family tradition and has replaced her husband on the committee.

### **Cost for advertising in TAM**

Suggestion of cost to advertise in future editions of **TAM**

Quarter Page (Half Column) AUD\$120:00

Half Page AUD\$200:00

Full Page AUD\$400:00

Cost of A4 insert (Single Page) AUD\$400:00

All artwork to be supplied by the advertiser.

Less than quarter page would be negotiated.

10% discount for 1 full year (4 editions).

Member comments welcome

## **MSA on the WEB - by Adrian Ward**







Well it had to happen. With all and sundry - from pizza restaurants to car manufacturers, computer systems to pay television - on the World Wide Web, the MSA has also joined the throng.

(Any comments please [email](#) me.)

## **State News**

### New South Wales

NSW proposed schedule of visits for 1997

-  March 19 - Macleay Museum University display of precision instruments
-  May - Aircraft corrosion control & NDT testing facility.
-  July - Astronomy
-  August - Drug testing.
-  October - Medical measurements.
-  November - Aircraft operations.

### Victoria

Arrangements have been made for all MSA members to visit the facilities of Australia's leading gauge maker, **S.G. Prittie Precision Gauges Pty. Ltd.**

**When:** ... 9th April 1997 from 7pm to 9.30pm

**Where:** ... 21 King Street, Airport West


**Reply:** ... Ron McBain on (03) 9852-0466 or (03) 9850-3919

**By:** ... No later than 4th April 1997

### Queensland

Nothing received for this issue

 South Australia  
Nothing received for this issue

 Western Australia  
Nothing received for this issue

 Tasmania  
Nothing received for this issue

## **The Perfect Measurement (Letters)**

The following letters were received from Neville Owen and Gary Price regarding, amongst other things, the Presidents's challenge in the last issue of TAM, namely can anyone come up with a measurand that can be simply defined in a few sentences so completely that there is absolutely no associated uncertainty.

Thanks for your response Neville and Gary and I hope it prompts some more jottings from our membership.

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*From: Neville Owen*

The problem posed by John Miles in the November TAM, of defining an absolute measurement without uncertainty brings to mind my long term desire for the measurement of the quantity of energy passed through a gas meter. Present metering technology usually relies on the determination of a volume of gas, which is metered at a known or estimated pressure and an estimated temperature. These pressure and temperature estimates allow the volume to be converted into a mass. Further a knowledge of the gas heating value at the metering location then permits the determination of the amount of energy metered. This is a very lengthy process susceptible to many measuring errors.

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*From: Gary Price*

Our esteemed and venerated President, in between exhorting us (quite rightly) to contemplate and discuss the awesome intellectual, social and economic implications of metrology has issued some substantial challenges and pretty puzzles. One of them was to define measurement and much was the giddiness induced in the nation's laboratories as we all wandered around in ever decreasing circles. The other challenge was to come up with an example of a measurand with zero identification uncertainty. The following not entirely original definitions and example are offered.

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You will have to see **TAM** to read John's response to Neville and Gary!!!

## **Question from the President**

**What is a Metrologist?** Some time ago, I asked MSA members to try and define a metrologist. This is obviously very relevant to the Metrology Society of Australia. After all, if we don't know who we are, then who does?

I haven't been exactly overwhelmed with suggestions.

I therefore offer the following, taken from an official guidebook produced by the Employment and Training Administration of the US Department of Labor.

A Metrologist:

"Develops and evaluates calibration systems that measure characteristics of objects, substances, or phenomena, such as length, mass, time, temperature, electric current, luminous intensity and derived units of physical or chemical measure. Identifies magnitude of error sources contributing to uncertainty of results to determine reliability of measurement process in quantitative terms. Redesigns or adjusts measurement capability to minimize errors. Develops calibration methods and techniques based on principles of measurement science, technical analysis of measurement problems and accuracy and precision requirements. Directs engineering, quality and laboratory personnel in design, manufacture, evaluation and calibration of measurement standards, instruments and test systems to insure selection of approved instrumentation. Advises others on methods of resolving measurement problems and exchanges information with other metrologist personnel through participation in government and industrial standardization committees and professional societies."

Any comments?

Send your thoughts to [John Miles](#)

## **NSC News & Contributions**

### **Metrology in Chemistry - International and National developments**

Interest and activity in bringing a metrological perspective to quantitative chemical analysis has been increasing rapidly around the world in the past few years. The mere trickle of work and papers in the field of a couple of years ago has turned into a flood. The primary driving force for improvement in analytical quality and comparability has been international trade and it is not surprising to find vigorous regional organisations such as EURACHEM producing important work in areas such as analytical uncertainties, the UK Valid Analytical Measurement (VAM) program and a great deal of attention to analysis by international and regional laboratory accreditation bodies and by standardisation organisations.

### **Water Meters**

During 1991-92 the Commission undertook a study to ascertain whether or not measurements made by water meters are accurate and traceable. The Commission also analysed relevant legislation setting out the requirements for water meters. Of particular interest to the Commission were the requirements for ensuring the accuracy of the meters. This study found a lack of uniformity between the water authorities and the standards they apply to their meters. It also found that only a few water authorities have systems to ensure the in-service accuracy of their meters or could demonstrate the traceability of these measurements.

## **Time - by Dr Richard Brittain**

Dr Richard Brittain is a member of the MSA who is employed as a scientist at the National Standards Commission. His duties include providing advice to the Government on legal metrology and policy issues relating to the national measurement system. A majority of his work is in the field of industrial measurements, utility meters and Australia's time system. On Friday 31 January Dr Richard Brittain appeared on the ABC Radio Adelaide talking to Julia Lester on 5AN. He appeared as Secretary of the National Time Committee and answered the following questions:

- 📞 Will The Year 2000 Be A Leap Year? And How are Leap Years Calculated?
- 📞 Why Does February have Less Days Than Any Other Month?
- 📞 Why Does The Date of The Chinese New Year Vary So Much Each Year

To read his answers you will need to see **TAM**

## **Conference Update - MSA '97 Committee**

In this issue of TAM, you will find a couple of brochures notifying the MSA conference and calling for papers. We hope the conference will draw all Australian metrologists as well as many from further afield to make this a truly productive and "not-to-be-missed" event on everyone's calendar. Please use the second brochure to publicise the conference and circulate the information to your colleagues, clients and associates.

## **Member Advertisements**

### **MEASURING EQUIPMENT FOR SALE**

Carl Zeiss Universal Measuring Microscope  
Capacity 200mm x 100mm, C/W Accessories, Optics Rotary Table etc.

Hommel Werke model t1, Surface Roughness Tester c/w worktable.

81 piece Gauge Block Set (Matrix) Inch (Inspection Grade)

Gauge Block Accessories, (small set) comprising: 3 sets radius anvils, 3 clamps,  
1 straightedge

Diatest Sets, (3 only):  
Comprising:

- 1 Set 0.0375 - 0.061 inch
- 1 Set 0.0185 - 0.038 inch
- 1 Set 0.0625 - 0.394 inch

Surface Plate (granite) 600mm x 600mm

All of the above equipment is surplus to existing requirements and is in good to excellent condition, prices are negotiable.

Contact is R.McBain on Telephone: (03) 9852-0466

### **JOB FOR A DIMENSIONAL METROLOGIST**

The Nylex Corporation is seeking a Metrology Officer for their Frankston plant. The successful person would be responsible for all dimensional metrology functions and the control, registration and calibration of all test equipment. Compilation of reports and capability studies for new and existing products would also form part of this role. The company is requesting that a person who has completed a course in measurement science/metrology, with a knowledge of statistical applications and who can work without supervision in a friendly team environment should apply to:

Mrs. P Stuart  
Quality Manager  
Nylex Corporation Limited  
PO Box 307  
FRANKSTON 3199

**NML TALYROND MODEL FOR DISPOSAL**

Dr. Nick Brown from NML (Sydney) has requested members be advised that a Talyrond Model 1 Roundness Measuring Machine (about 1955 vintage) is being disposed of. The machine is available at no cost but the procurer would be up for removal and transport costs from the laboratory at West Lindfield.  
Please contact Nick at:

Dr. Nick Brown (Leader Length Standards Project)  
CSIRO, Division of Telecommunications and Industrial Physics, National Measurement Laboratory  
Address: Bradfield Road, West Lindfield NSW 2070  
Telephone: (02) 9413-7157  
Facsimile: (02) 9413-7200 / (02) 9413-7631  
(or [click here](#) to email Nick)