

# Mouthpiece



## President's Address

Welcome to the first edition of Mouthpiece for 2000. We all made it despite the dire predictions of millennium bugs and utility disasters.

Our next big event is the 2000 Annual Scientific Meeting. I am sure we will all enjoy this meeting, we have a good programme with relevance and variety. This is the first year we will have a guest speaker at the welcoming function. The welcoming function has developed along the years largely due to sponsorship. It is a great opportunity to mix informally and set the scene for the more serious intent of the meeting the following day.

The 2000 Symposium "Quality Assurance in the Respiratory Laboratory" is focussed on practical everyday issues we deal with in our respiratory laboratories. We hope members leave the ASM feeling they have learnt something new and have reinforced their understanding of quality assurance. The ASM is our primary forum for education and sharing of ideas between peers in our profession and is in keeping with the aims of our Society.

I hope we will have better support from members for the Society's 2000 AGM. Last year's attendance was disappointing. The Executive strongly encourages members to participate in this important meeting. The AGM is our opportunity to report back to the membership and discuss future initiatives. The AGM also gives members the opportunity to contribute to issues that are important to them. You

should have received notification of proposed changes to the constitution (sent out in February), they are also published in this issue. These changes will be voted on at the AGM.

The ANZSRS Logo Competition was judged at the last Executive meeting. All entrants have been notified and the results are published in this issue. We wish to thank the members who took the time and trouble to enter. The Executive has developed the winning entry into a Logo that will be proposed for adoption as a new Society Logo. This will be on display along with the 3 finalist entries at the ASM. The decision regarding the adoption of a new logo will be by a majority vote at the AGM.

Our editor Belinda Breust continues to publish Mouthpiece with a professional flair. Please endeavour to convert ideas for contributions into submissions and send them to Belinda. Our Society's publication is our other forum for sharing ideas and information on respiratory science.

We have decided to continue the publication of the form for the ANZSRS register. Please fill it in and return it to Kevin Gain. Approximately 20% of the ANZSRS membership have responded so far.

It is time to submit nominations for the next Executive. The next term will commence at the ASM, 2001, which will be in Queensland. This is an opportunity to guide the functioning and contribute to the future of our Society. The next Executive will be voted in at the AGM, Saturday April 8 2000, in

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## From The *editor*

Now that the excitement and anticipation of the new millennium has died down, we might want to think about refocussing some of that energy and enthusiasm into identifying new goals for our workplace. Setting the goals is not generally the problem, however I am the first to agree that attaining these requires a great deal more than just enthusiasm and energy. The new millennium will hopefully provide that motivation for a fresh start, new goals, and increased productivity. We can only hope!

Speaking of plans, the year 2000 will see the introduction of a new segment in Mouthpiece entitled "Clinical Contact". This segment is designed to provide a clinical perspective on various pathophysiologicals and how they relate to the physiological measurements. I would particularly encourage GPs and physicians within the Society to contribute to these articles. The first segment will be published in the next edition of Mouthpiece due out in May/June.

On request from the Executive, the Survey form will remain in the newsletter with the hope of capturing the majority of our membership. It would be beneficial to circulate Mouthpiece throughout your lab, as there may be some members who are not currently receiving the newsletter, for whatever reason. I am constantly having mail returned to me due to incorrect addresses, so there is definitely a small percentage of members who do need to update basic contact details. The Executive would appreciate replies from the remainder of the membership with regards to the more detailed information listed on the survey form.

Contact details for all Board members will also feature regularly in Mouthpiece.

Following on from the QA issues discussed in the last edition of Mouthpiece, I have included a response form in this issue to be completed by each laboratory so as to provide details of their own QA assessments. I think it would be valuable to collate some data describing variability in quality control measurements throughout our laboratories. I would like to think the collection of such data will not be particularly time consuming, therefore I would greatly appreciate if each laboratory could provide the necessary details by either forwarding the response form via mail, or simply email the relevant details to me. Data from this survey will be published in an upcoming edition of Mouthpiece – the more data the better!

I assume there are many of us adding the final touches to presentations for the ASM in Melbourne. It is always a hectic period but no doubt we will all benefit in the end. I congratulate the organising committee and look forward to catching up with everybody at the social events.

Belinda Breust, CRFS  
Editor

"Congratulations and best of luck to **Teana Roebuck** of The Alfred Hospital in Melbourne, and her husband, David, who are expecting their first child. Also, best wishes to **Corrie Ingram** (also from The Alfred) and husband, Hilary who are expecting their second child in June. This year The Alfred will have four scientists on maternity leave simultaneously! Must be something in the water!

## Advertising in Mouthpiece

I am pleased to announce that the Executive has now approved the use of commercial advertising in Mouthpiece.

We would like to encourage all of our sustaining members to consider the benefits of advertising in the newsletter. Mouthpiece offers a very specific but comprehensive target group for the sale of medical equipment, and an appropriate medium for the publication of information about new and improved items. This opportunity is open to either members or non-members of the ANZSRS.

The Executive is currently compiling a mailing list of industry contacts, who we will endeavour to notify in the near future. Alternatively, if you would like further details regarding advertising in Mouthpiece, please contact;

Belinda Breust (Editor)  
Respiratory Medicine Dept.  
Princess Alexandra Hospital  
Brisbane QLD 4102  
Ph: 07 3240 2046  
Fax: 07 3240 5899

## Executive Update

The Executive met in December and among other business admitted more new members into the Society. We welcome the following:

<b>Josh Stanton</b> , Palmerston North, NZ	Associate
<b>Stuart Jack</b> , Melbourne, VIC	Ordinary
<b>Lucas Litewka</b> , Melbourne, VIC	Associate
<b>R.J. and V.K. Bird Pty Ltd</b>	Sustaining
<b>Dr Richard Roberts</b> , Melbourne, Vic	Ordinary

In addition, a phone conference since the meeting has seen the following admitted to the Society:

<b>Nikki Cross</b> , Melbourne, Vic	Ordinary
<b>Biljana Skoric</b> , Melbourne, Vic	Ordinary
<b>Tracy Roberts</b> , Melbourne, Vic	Ordinary

The Executive has been concerned at the delays in admitting members resulting from the practice of holding applications until the next Executive meeting. We intend in the future, therefore, to process applications as they are received rather than at formal meetings.

The balance of the business related to matters concerned with the upcoming meeting. In particular there was much discussion about the

Logo competition – winners announced elsewhere in this issue – and the constitutional amendments which all members should have received by now. The amendments are also published in this edition.

We look forward to seeing you all at the meeting in Melbourne. Agenda items for the AGM should be sent to the secretary ahead of the meeting if possible. We also trust that you will all make an effort to attend the AGM as it is important that the best decisions are made for the Society with all member views being taken into account.

Kevin Gain, PhD



# Constitutional Amendments

## To be Put To ANZSRS AGM 08/04/2000

1. Modify Clause 2.7 to read:

2.7 “Member” shall mean ordinary, life, associate, affiliate, honorary, and sustaining member.

2. Amend section 2.10 to reflect the incorporation of Life Membership

2.10 “Voting member” means ordinary or life member.

3. Modify the wording of the preamble to Section 5 to read:

*Membership shall be divided into 6 classes; ordinary members, life members, associate members, affiliate members, honorary members and, sustaining members.*

4. To be added to section 5 of the constitution as subsection 5.6

### 5.6 Life Membership

*The Society may bestow life membership on persons who have been ordinary members of long standing and who, in the opinion of the Executive, have made an outstanding contribution to the Society. Any ordinary member may nominate such persons to the Executive. The decision to award Life Membership requires ratification by the Board of The Society. Such members will be exempt from membership fees but will enjoy all the privileges of ordinary membership including voting rights.*

*NOTE: This category differs from honorary membership (section 5.4) in that the recipient must have been a long-standing member of the Society and the recipient retains voting rights not granted to honorary members.*

5. Sections 3 and 5 of the Constitution contain reference to “respiratory technology” – specifically clauses 3.2 3.4, 5.1, 5.2 and 5.4. In keeping with the name of the Society, it is proposed to replace the word “technology” with the word “science” so that the relevant clauses read:

3.2 To advance the knowledge of respiratory



science

3.4 To encourage training and education in respiratory science.

### 5.1 Ordinary Members

*Ordinary members shall consist of those individuals who are admitted as voting members by the Board on payment of such fee and compliance with such conditions of membership as are imposed by the Board from time to time. Ordinary members shall be individuals employed in the field of respiratory science who have an appropriate tertiary qualification plus 1 year’s experience in a laboratory recognized by the Board, or alternatively those who are granted ordinary membership status based upon merit as outlined in clause 1.1 An ordinary member is entitled to vote at all meetings and to hold an appointed or an elected office in the corporation. Ordinary membership fees shall be determined by the Board.*

### 5.2 Associate Members

*Associate members shall consist of those individuals employed or studying in the field of respiratory science who do not qualify for ordinary membership. Associate members will be admitted by the Board. Associate members are not entitled to vote at membership meetings and are not entitled to hold elected office. Associate members may hold office only by appointment. Associate membership fees shall be determined by the Board.*

### 5.4 Honorary Members

*The Society may bestow Honorary membership on persons who have made an outstanding contribution to respiratory science or to the Society. The Board will recommend suitable persons for Honorary membership for approval by the membership at the Annual General Meeting. An Honorary member shall not pay a membership fee and will not be entitled to vote at membership meetings. An Honorary member may only hold office by appointment.*

## AUSTRALIAN & NEW ZEALAND SOCIETY OF RESPIRATORY SCIENCE Inc.



### 2000 ANNUAL SCIENTIFIC MEETING GUEST SPEAKERS

The organising committee would like to extend their appreciation to the following guest speakers, who are scheduled to present at the upcoming ASM in Melbourne.

**Dr. Michael Pain**, Director of Thoracic Medicine at the Royal Melbourne Hospital, will be discussing "Foundations of modern lung function testing; 1846 - ?". This will take place on Friday night at the Welcome Reception located on the observation deck, 55<sup>th</sup> floor of the Rialto.

**Assoc. Prof. Robert Jensen** is from LDS Hospital, Salt Lake City, Utah. Assoc. Prof. Jensen will be giving the Plenary Lecture, "Statistics for the Respiratory Scientist" at the opening of our ASM, as well as participating in the Sunday symposium on QA, "Validation of Respiratory

Equipment".

**Ms Alison Hansford**, formally a Senior Scientist at Concord Hospital in Sydney, will be presenting an informal talk based on her recent expedition to Mt. Everest where she was involved with studying sleep physiology at altitude. We look forward to some spectacular photographs!

**Mr. Lloyd Penberthy** has been Coordinator of the Royal College of Pathologists of Australasia Chemical Pathology Quality Assurance Programs since their inception in 1982. This professional body is renowned for their unique approach to QA. Mr Penberthy's talk is entitled "External Quality Assurance", where he will provide us with a brief history on the evolution of QA and hopefully some valuable insight relating to these issues.

#### Therapeutic Goods Administration Notification

##### 100% O<sub>2</sub> Nitrogen Washout Method

*Recently the TGA received an incident report with respect to lung volume testing using the nitrogen washout method. The problem highlighted was that the nitrogen washout method of lung volume uses 100% oxygen, a contraindication in patients being treated with Bleomycin due to the potential for pulmonary toxicity and irreversible lung damage.*

*The Therapeutic Device Evaluation Committee (TDEC) considered that there was a risk of injury to patients and that the manufacturers of both the lung function device and the drug in question have a shared responsibility in alerting users of the potential problems.*

*All users of products that use nitrogen washout tests should receive product notifications in the mail in regards to this matter.*

## 2nd

### Call for Nominations

*Members are asked to submit nominations for the next ANZSRS Executive Committee.*

*Nominations for the positions of President, Secretary and Treasurer should be forwarded to:*

*Kevin Gain, (ANZSRS Secretary)  
Email: kevin.gain@wnhealth.co.nz*

*The next Executive will be voted in at the AGM Saturday, April 8, 2000 with a view to begin a two year appointment, at the 2001 AGM.*

# Websites of Interest

## ASTHMA

- ◇ Med-E-Serve In Touch  
(no cost but requires registration)  
<http://www.medeserv.com.au>
- ◇ National Asthma Campaign: Asthma Management Handbook  
<http://hna.ffh.vic.gov.au/asthma/amh/amhand/htm>
- ◇ ACCP Pulmonary & Crit Care Updates  
Peak flow: Myths & Truths  
<http://chest-main.edoc.com/pccu/lesson11-12.html>
- ◇ ACCP Pulmonary & Crit Care Updates  
Asthma: Evolving Anti-inflammatory Therapy  
<http://chest-main.edoc.com/pccu/lesson10-12.html>
- ◇ ACCP Pulmonary and Crit Care Updates  
Inhaled Corticosteroid Treatment in Asthma  
<http://chest-main.edoc.com/pccu/lesson3-9.html>
- ◇ School of Biomedical Sciences Charles Sturt Uni  
Post-graduate Sequence in Asthma Education  
<http://www.csu.edu.au/faculty/health/biomed/courses/asthma.html>
- ◇ Spirometry: The Measurement & Interpretation of Ventilatory Function In Clinical Practice  
<http://hna/ffh/vic/gov/au/asthma/spiro/index.htm>
- ◇ Healthgate Diagnostic Procedures Handbook  
<http://healthgate.com/dph/html/>
- ◇ Medscape Respiratory Care  
(no cost but requires registration)  
<http://www.medscape.com/Home/Topics/RespiratoryCare/RespiratoryCare.html>
- ◇ <http://respiratorycare.medscape.com/Medscape/RespiratoryCare/journal/public/mrc.journal.html>

## ANZSRS LOGO Competition

Congratulations to the winners of the Society Logo Competition

- 1 Lauren Cardno NZ**
- 2 Kelly Sallaway NZ**
- 3 Barbara Karet NSW**

The winning entries will be on display at the 2000 ASM in Melbourne.

A proposed new Society Logo, adapted from the winning entry, will be on display at the 2000 ASM in Melbourne. The decision regarding adoption will be by a majority vote at the 2000 AGM

## Variability in Biological Quality Control Data

The use of biological control data in the laboratory is important for monitoring instrument variation over time. Biological control subjects are generally trained, motivated subjects who perform technically accurate tests of lung function on a particular piece of equipment. In these circumstances, the variables contributing to measurement error are consistent. As such, these subjects generally demonstrate less intrasubject variability than most, therefore are more likely to expose variations in instrumentation.

Since there is little information describing an acceptable variability in quality control subjects, it would be a useful exercise to pool some data from various laboratories throughout Australia and New Zealand, so that we may have some comparative data on interlaboratory quality control subjects.

Biological Control (BC) Data							
		Subject A		Subject B		Subject C	
<b>Dates which the data span</b>							
<b>Gender of BC (M/F)</b>							
<b>Age of BC (yrs)</b>							
	Number of Measurements	COV (%)#	COR (L)*	COV (%)#	COR (L)*	COV (%)#	COR (L)*
<b>FEV1</b>							
<b>FVC</b>							
<b>TLC</b>							
<b>FRC</b>							
<b>RV</b>							
<b>DLCO</b>							
<b>VA</b>							
<b>KCO</b>							

Laboratory \_\_\_\_\_

Equipment Model \_\_\_\_\_

Method used for measuring TLC (eg. Helium dilution etc.) \_\_\_\_\_

Contact name for future reference \_\_\_\_\_

We encourage everyone who has a record of BC data to participate in the survey, including those laboratories who only have spirometry data to contribute, or data from only one BC subject. Once the data has been collected and analysed, it will be published in Mouthpiece.

Thankyou for your co-operation.

**The Australian and New Zealand Society of Respiratory Science Inc.**

**Survey forms should be sent to:**

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Level A3, Princess Alexandra Hospital,  
Ipswich Rd,  
Woolloongabba, QLD,  
4102.

**Fax:** 07 3240 5899.

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# Coefficient of variation (COV) = Standard Deviation / mean  
\* Coefficient of Repeatability (COR) = 2 \* Standard Deviation

## Profiler

As one of the original members of the ANZSRS, Rein has served for 6 years on the committee as honorary secretary (1990 – 1996) and has attended every ASM since they began in 1981.

# Rein Simmul

He began his tertiary career in chemical engineering. He completed his undergraduate degree (with honours) at UNSW and went on to gain his PhD in 1972. His thesis entitled “A chemical engineering model study of the transport of nitrogen in muscle tissue under varying pressure conditions” was the launching pad for a career in respiratory physiology that now spans 22 years. Following his PhD, he did a one year Post Doc. as a project scientist with the Royal Australian Navy, measuring total blood gas concentration and investigating the subsequent relationship to decompression sickness. He returned to the UNSW for four years working in textile technology, before embarking on a career in 1977 in respiratory physiology. He was employed as the scientist in charge of the respiratory investigation unit at Royal North Shore Hospital.

The equipment in the unit (at the time of Rein’s appointment) was extremely limited and cumbersome and his charter was to facilitate the expansion and automation of the service. Coinciding with Rein’s appointment, the respiratory and intensive care departments had purchased the hospital’s first clinical mainframe computer. In 1979, together with staff from the ITU, Rein designed the first electronic/pneumatic switching system to enable sequencing of gas flows and computerised analysis resulting in the implementation of an exercising DLCO system. Dr Michael Berthon-Jones whom many will know from sleep medicine circles, was later appointed as the respiratory registrar and he joined the developmental team. This in-house equipment soon expanded to include resting and exercising gas exchange. In 1981, the laboratory purchased its first body plethysmograph and its computerised automation was soon facilitated together with the development of a single breath DLCO test. The automation of the lab was complete, together with a computerised database and reporting system and may well have been a world first!

Apart from excelling in the design and development of instrumentation, Rein has been able to adapt his design skills to help improve the quality of life for a number of patients over the years. His first encounter took place in 1979 when a young patient was admitted to RNSH with an eventual diagnosis of Ondine’s Curse. Following a tracheostomy and successful ventilation on the ward, the patient was discharged with the prospect of expensive home ventilation using a supply of compressed air bottles. Rein was able to apply his knowledge and expertise in designing and making

an oil-free compressor system complete with air drying filters to drive a Bird ventilator. This same patient, with Rein’s assistance, has continued to live through the evolution of commercial home ventilation equipment and has just recently given birth to

her first child. Another of Rein’s “firsts” was the development of a custom-made silicon mask to nasally ventilate a patient with spinal injuries. At the time, nasal ventilation was unheard of and it was only shortly before this that Professor Colin Sullivan invented CPAP for ventilatory assistance of sleep apnoea patients. The design of commercially available nasal masks took place in the ensuing years.

Rein’s research achievements are many and varied and have included several publications in the area of SO<sub>2</sub> challenges where he designed a delivery system for gaseous SO<sub>2</sub>. His current research is a collaborative study with the Renal and Pain Management departments at RNSH involving measurement of metabolic rate using indirect calorimetry with the Sensormedics VMax system.

Rein clearly has an extensive knowledge and aptitude in instrumentation design and has been able to apply this over the years for the benefit of numerous individuals as well as the department. Indeed this ability has been of direct personal benefit in enabling him, in the mid-70’s, to build his own house. He is currently in charge of administering ventilatory support for a diverse range of patients and he enjoys immensely, the personal interaction and each of his patient’s successes. These patients include those with motor neurone disease, post lung volume reduction surgery and spinal injury.

His personal interests include woodcarving, painting and drawing and he has been continuously involved with the scout movement for many years where he enjoys both camping and bush walking activities.

Rein’s extensive knowledge and experience have been and remain a tremendous asset to our hospital. His ability to think laterally and then to apply that thinking in a “can do” fashion is self-evident. He is one of the fathers of the ANZSRS.

*Craig Phillips,  
Senior Hospital Scientist,  
Respiratory and Sleep Units,  
RNSH.*



**The Australian and New Zealand Society of Respiratory Science Inc.**

Executive Committee

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## CRFS Examination

Congratulations to *Peter Rochford* who recently passed the CRFS examination. Best of luck for all those candidates who are about to sit the next exam on **March 17.**

For details of the examination and application forms, please contact:

**Stephen West**  
**Clinical Measurements Dept.**  
**Westmead Hospital**  
**Westmead NSW 2145**  
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### Regional Board Members

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You are invited to contribute short articles, meeting reports and calendar details etc. These should be sent to:

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