Volume 12, No. 3 June, 1998.

Contents

- Editorial
- Professor dr.ir Rudy den Buurman
- President's Message
- Contacts
- Branch News
- A Malefactor in the Ergonomics of Design
- Book Review: Blewett & Shaw
- Occupational Injury/Disease Statistics
- Alternative Keyboards
- History of Seating
- Electronic resources
- Conference Calender
- Information for Contributors
- Information for Advertisers

Editorial

The last few months have been stimulating, and a touch stressful. I'm on study leave, travelling since mid-March, first to the UK, and now Delft, The Netherlands. There have been many and varied sources of stimulation, including the UK Ergonomics Society conference in April, the stimulation which arises from meeting lots of interesting people, and the privilege of working with some of them. The sources of stress have also been varied - the weather in the UK was not the most congenial, our visit coinciding with the wettest April in memory and the worst floods for 150 years; and travelling with two young children also brings inevitable stresses. Travelling also often puts one in the place of an unfamiliar user - and examples of poor design were readily apparent. I'm thinking in particular of the varied designs of shower controls in the UK. Of course, I was always naked in the shower before I realised I couldn't work out how to make the thing work.....

On a more sober note, our arrival in Delft coincided with the death of Rudy den Buurman, Professor in the Faculty of Industrial Design Engineering at TU Delft, and well known to many ESA members through his attendance at a number of ESA conferences. A tribute to Rudy is included in this issue.

Erratum
The gremlins got into the last issue in a big way, or to put it another way, I stuffed up. When Barbara McPhee kindly forwarded her submission on Whole Body Vibration for the last issue it came to me in two files attached to an email. One was the text which was published in the April issue, the second was some introductory information, and most importantly, the authorship details. I did not notice that the second file was attached, and erroneously assumed Barbara was the sole author of the first file. In fact, the correct details are as follows:

**Whole-Body Vibration Standards**

**Barbara McPhee *, Gary Foster ** and Airdrie Long***

* The Occupational Health and Safety Services Network P/L

** National Occupational Health and Safety Commission (Worksafe Australia)

*** Considered Solutions

An [amended copy](mailto:) is available. Apologies to Gary & Airdrie.

Robin Burgess-Limerick

ps., Don't forget the 1998 annual conference, October 5-7 in Melbourne. For more information contact ESA National Conference Secretariat, Conference Plus, Level 10, 459 Lt Collins St., Melbourne, Australia 3000. Ph. +61 3 9602 3073; Fx +61 3 9642 5152 or email esa@ozemail.com.au.

Email: [robin@hms.uq.edu.au](mailto:robin@hms.uq.edu.au)

---

**Professor dr.ir Rudy den Buurman**

**Professor of Informational Ergonomics, TUDelft, The Netherlands.**

Rudy den Buurman died on Thursday 30 April in Delft. He had been fighting cancer for some months, but his death was nonetheless sudden and unexpected.

Rudy was well known to many of us involved in Australian ergonomics. He was a physicist who moved to ergonomics via a basic concern for human beings, and his expertise underpinned the development of informational ergonomics in the Faculty of Industrial Design Engineering in TUDelft. He had a huge influence on the research strategy of the Faculty and was always one of the most pivotal figures in its administration. His influence in the Netherlands spread far beyond ergonomics. He was for many years the president of the 'Vereinigen Eigenhuis', an institute representing house owners in the Netherlands which began as a very small society and became, under his guidance, a very powerful and influential body. For this work he was invested with the Order of Orange-Nassau - the highest civil award in the Netherlands.

His professional and academic expertise is a matter of record, but there was another
side to Rudy. We first met in Coolum, when we attempted a world record for ergonomists together in a spa. I seem to remember we managed thirty five, and if you were one of them......well, I won't tell if you don't! That is the way we prefer to remember him - a warm, fun loving guy with a big heart, a dry an penetrating wit and, incidentally, a mind like a steel trap. He was our special friend. We miss him.

Bill Green and Jenni Miller

President's Message

Dear Fellow Ergonomes,

By the time you have the opportunity to read this we will be almost half way through the year and hopefully you will all be reaching for your cheque books to renew your membership subscriptions. In my brief message with the membership renewal request I said that it seemed such a short time since the WA team began as your executive - on reflection I wondered whether this was because I was entering my dotage (defined in my dictionary as "the childishness of old age"), but I prefer the thought that it is because there have been plenty of challenges. The next issue of EA will be the time to say 'farewell' as we prepare to hand over to David Caple and his team, but in a way it will be only a partial farewell because I will be on the Board for another year as Past President - this sort of 'rolling' presidency (one year as President Elect, two as President and one year as Past President) does give a degree of continuity that I have found to be most helpful in helping to manage the Society's affairs.

As I write these notes I am looking forward to the next face-to-face meeting of your Board (I still have to make a conscious effort to think 'Board' instead of 'Council', but see 'dotage' above) which will have been held in Melbourne in May and will therefore be reported in the August edition of EA. An important topic is the question of membership criteria - this seems to have been a hoary perennial since I joined the society in 1982 (and there are plenty of members who pre-date me, since I came into ergonomics late in life!) - both the numbers of members and the mix of professional backgrounds have changed over the years (membership has more than doubled since I joined) but, more importantly, the climate in which ergonomics is practiced has changed. So we have to make sure that the Society's grades of membership and entry criteria meet the needs of both our Society and the society in which we operate. In this context the competencies criteria form a firm base from which to proceed, and the experience of overseas ergonomics societies also can provide useful input, although this will need to be carefully distilled to produce a uniquely Australian product.

It is good to see that we have at last got a new logo and, wisecracks apart (such as "the ergonomic Mr Squiggle") I am sure that it will stand us in good stead as we approach the new millennium. I couldn't resist the last comment as I have just been reading a book by Stephen Jay Gould titled "Questioning the Millennium" (London: Jonathan Cape) - I can thoroughly recommend it as a fascinating read.
One of my pet hobby horses is to encourage people to attend lectures on unfamiliar topics, so practising what I preach I went to a recent WA branch technical meeting where there was a presentation by Professor Laurence Hartley from Murdoch University on the subject of managing fatigue in the transport industry, one of the many areas in which I am remarkably ignorant! Well, it was a most interesting account of the development of a policy for dealing with the problem of regulating hours of service in the transport industry. So I reckon I should get double brownie points towards my CPE re-accreditation. I may be no wiser but I'm certainly better informed.

Finally, don't forget the Society's annual conference in Melbourne in October. See you there!

Best regards

Ian Gibson

---

**Board News**

**Membership Fees**

The Board has decided that future membership subscriptions would be allied to rises in the CPI, and rounded.

Accordingly, the membership subscription rates for 1998-99, due on 1 July, will be:

- **Member** $170
- **CPE** $170 + $60 = $230
- **Affiliate/Student/Retired** $70
- **Corporate** $400
- **Joining Fee** $30

**Federal Secretariat Contact Details**

Ergonomics Society of Australia Inc
Tel:+61 (02) 6242 1951
Canberra Business Centre
Fax: +61 (02) 6241 2554
Bradfield Street
Dover, ACT 2602
email: esa@ozemail.com.au
AUSTRALIA

Business Hours:
9-1 Monday to Thursday
Executive Officer: Ian Mitchell
Administrative Secretary: Margot Lynch
### Board Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Ian Gibson</td>
<td>Phone: (08) 9279 8783 Fax: (08) 9279 8783</td>
<td>email: <a href="mailto:gibsonia@cantech.net.au">gibsonia@cantech.net.au</a></td>
</tr>
<tr>
<td>Ms Jenni Miller</td>
<td>Phone: (08) 9386 1419 Fax: (08) 9386 1419</td>
<td>email: <a href="mailto:jennim@cantech.net.au">jennim@cantech.net.au</a></td>
</tr>
<tr>
<td>Mr Rod Powell</td>
<td>Phone: (08) 9327 8727 Fax: (08) 9322 8789</td>
<td>email: <a href="mailto:powell@worksafe.wa.gov.au">powell@worksafe.wa.gov.au</a></td>
</tr>
<tr>
<td>Mr David Caple</td>
<td>Phone: (03) 9499 9011 Fax: (03) 9499 9022</td>
<td></td>
</tr>
<tr>
<td>Ms Christine Aickin</td>
<td>Phone: (02) 9810 2199 Fax: (02) 9810 2199</td>
<td></td>
</tr>
<tr>
<td>Mr Michael Michaliades</td>
<td>Phone: (03) 9319 5870 Fax: (03) 9319 5909</td>
<td>email: <a href="mailto:michallades@atea.mat.army.defence.gov.au">michallades@atea.mat.army.defence.gov.au</a></td>
</tr>
<tr>
<td>Mr Jim Carmichael</td>
<td>Phone: (07) 3233 1304 Fax: (07) 3233 1390</td>
<td></td>
</tr>
<tr>
<td>Mr Tim Upsdell</td>
<td>Phone: (08) 8344 8400 Fax: (08) 8344 8198</td>
<td></td>
</tr>
<tr>
<td>Mrs Angela Summers</td>
<td>Phone: (09) 224 3430 Fax: (09) 224 1137</td>
<td></td>
</tr>
<tr>
<td>Mr Mike McCracken</td>
<td>Phone: (02) 6266 2880</td>
<td></td>
</tr>
<tr>
<td>Dr Neil Adams</td>
<td>Phone: (02) 9212 1824</td>
<td></td>
</tr>
</tbody>
</table>
Branch News

Victorian Branch

Meeting report

On Tuesday May 12 about 55 people came along to the Carlton Social Club (Optus Oval, on Royal Parade Carlton) to participate in "Ergo Expo 1998" - a series of five simultaneous presentations, running constantly from 6:30 pm until 8:00 pm. This enabled five groups of about ten each to congregate around a single presenter for 15 minutes, learning about a specific technique or advance in an ergonomics area. Topics included: a new five-wheeled trolley (Wes Wilkinson); FWAP (an assessment method, using Windows (Judith Farrell); MODAPTS (movement and process analysis, computer-assisted -Michael Hui); keyboards old and new (Michael Rose); surface EMG measurements, again, with notebook computer analysis (Peter Schambre). The meeting was organised by David Trembearth and Mark Dohrmann. It was a great meeting, crisp and informative, with networkers talking on animatedly until long after 8:00 o'clock.

Further meetings this year:

Wed July 8: 6:00 pm for 6:30 pm at the Carlton Social Club, Optus Oval, Royal Parade Carlton: "Ergonomics in the Home". Several presenters, who will cover bathrooms; the Home Office; childrens' play and learning; slips and falls. We hope to have a just-released video on "Safety in the Home" available from the City of Hume. There is also a slim chance that we may be able to run the meeting at the Childrens Hospital Safety Centre.

Thursday September 10: Professional Development Seminar - a half day (2 pm until 5:30pm, followed by drinks and dinner): "The Ergonomics Practitioner for 1999": presentations and workshops on quality assurance in ergonomics work; meeting the needs of clients; professional liability; essential resources; marketing our services; helping the next generation of ergonomists.

Tuesday November 10: Site visit. Likely to be one of the following: Australia's world-class air traffic control room at Tullamarine; an ergonomics laboratory; Victoria Police Training Academy; CityLink Project; Tabaret's Gaming Development Test Unit; Williamstown Shipyard (Transfield); a model home designed to maximise safety.

[The information above is from the new Victorian branch web page, see below for more information. - Editor]

Victorian branch web page

The Victorian Branch of the ESA has just established its own Web Page. We brave amateurs have put together a skeleton page at this address: http://www.ergonomics.com.au/vic.htm.
Since this site can become a useful resource for all branches, I'd be grateful for your comments on this "first go", and any advice you have for future content and function. There's a rough sort of "fill in the form" routine at the end of the page - the actual query made there is fairly irrelevant - I just want to practice making the interactivity thing work - it sends us an automatic email. The idea of obtaining automatic "form-filled" comments is, I think, useful.

We want to establish an "FAQ" ("Frequently Asked Questions") page, where we can put a growing list of all those things people keep asking ergonomists all the time, together with the answers. By answering queries properly, we keep the standard of ergonomics up, which ultimately helps us all.

I'd really appreciate a few lines from any ESA member on this FAQ theme. We'll build handy question-and-answer page which everybody on the Web can use or point to (with links, etc). Think of all those phone enquiries you can divert! So, please write a couple of questions of ergonomic relevance, then answer your own question in 200 words or less, and send all of this to me.

Eg: "How far do I have to sit from a screen?"
"Where do I find out about display colors and their selection?"
"Are workplace exercises important?"
"What does ergonomics mean?"
"Where can I get "ergonomic" handtools?"
"Do I need a screen filter?"
"Will radiation from the screen "get" me?"
"Where do I find out about ..(???)..."
"Where do you get a ...(??)"
...or whatever. You know what I mean!

Mark Dohrmann
(mark@ergonomics.com.au)

[For information about the Victorian PIE meetings, see http://www.ergonomics.com.au/pie.htm]

---

A Malefactor in the Ergonomics of Design

Michael Patkin
michael.patkin@unisa.edu.au

No, it's not a misprint in the title. The male factor is a frequent malefactor, a
wrong-doer, in the usability of everyday items. This is hardly news, but it happens often to be worth talking about.

It started on a Sunday morning walk to the lookout over the Whyalla beach, when my wife tried out one of the new park benches. She's interested in these things as manager of the Functions Centre at the Adelaide Town Hall and the many items of civic discussion that crop up there. She said, this seat must have been put in by a man.

The bench was metal strips, sensibly spaced (if you are clothed) and nicely contoured with a waterfall front edge, of the style approved for ergonomic typists' chairs. It was canted back, so you could relax more as you gazed out to sea in the laid-back Grandjean style rather than the Teutonic Bauhaus shown in Ahmet Cakir's book on the ergonomics of VDT displays way back in 1980.

BUT, when she sat down, her legs dangled. It was not designed for most of the 50 per cent of the population who happen to be female and happen to be shorter than males so that their feet can make comfortable contact with the ground. Some man had looked at it and then tried it out and then pronounced it Good - much like the Almighty in the opening verses of Genesis.

There's no shortage of examples. Hot-air hand-dryers are generally set too high for average women, in those toilets where presumably men don't go anyway. When you (a woman) put your hands up to the best and perhaps only height to dry them at, the water runs down your wrists. No, I'd prefer a towel of some sort. In the same washrooms, mirrors are set at a height that suits men. Great, for men or taller women who use these washrooms.

The plot gets grimmer. Years ago, before Margaret Bullock was Professor, or chaired the university academic board, or presided over the Ergonomics Society of Australia, or did any of the other great things she has done, she looked at how hard it was necessary to pull on a parachute release cord. Why? The amount of force needed exceeded the force that could be exerted by the average woman in that position, and so women parachutists died.

Now of course no self-respecting ergonomist would think of being guilty of design errors like the three I have just mentioned. Yet they still occur in everyday life, and they shouldn't. Their effects don't compare with death from breast cancer or the millions who died under Pol Pot, but as part of the good life, or the Better Life, we as ergonomists should each be able to add our little bit to the betterment of the human condition. There are lessons.

First, all the clever design effort by an individual or a team is incomplete if the intended final product isn't tested adequately in the field on the population for whose use it is intended. One of the features of any system is that its input-output properties can not be predicted from the behaviour of its subsystems, for which the political metaphor is "It seemed like a good idea at the time."

Second, ergonomics has to be part of the original design brief for the product or system. Somehow, by repeatedly bashing our collective head against the brick wall, we have to get designers, managers, and people in general to accept this, the more
important the bigger the project. The great engineers and managers of the past - Brunel, the first Duke of Malborough, and contemporaries such as Sir Gus Nossal - don't need formal training in Ergonomics. (Read details of their lives for the incidental examples that show this, or you can email me if your curiosity is otherwise unmanageable).

How to achieve this Ergonomic Nirvana? Well, it's appropriate for 1999, the fiftieth anniversary of the foundation of the Ergonomics Research Society in the UK, the grand-pappy of all related societies around the world today. We need some publicity.

It's been tried before, but it's worth another try. Just like the IgNobel Prizes awarded in Boston each year, comparable to the Nobel Prizes in Stockholm, we need a series of Ignomonic or Igmoronic (IgOnomic? Ignoromic?) Prizes for ergonomically stupid designs. They could be celebrated on a special national day or national week or maybe part of (hold your breath for it) The International Year of the Normal Person. Here's to the big bulge in the middle part of the Normal Distribution Curve!

Book Review: **Blewett & Shaw**

Gail Veal MESA

"Best Practice in OHS Management", V Blewett and A Shaw., CCH Australia., Sydney, 1997

This book is a collection of articles on the many topics that OHS practitioners face in the daily and often frustrating pursuit of improvement, but don't go looking for the magic answer. Instead what you will deservedly find is a series of very good discussion papers that help you to refocus on the particular aspect of OHS that you may be grappling with.

I found it much easier to read this out of sequence, by selecting an issue or topic that interested or bugged me at the time; and then pausing or reflecting on the article, which then allowed me to revisit the topic from a different viewpoint, All too often we look for the quick grab in best practice, the 'quick and dirty' method that another company or group has trialed and possibly succeeded in, without going through the brainwork process, or discussing issues at anything other than the superficial level.

The article on 'OHS and Organisational Culture' is really the critical article that should be read first in this book; helping you to gain an understanding of what you are doing and openly question your own approach and methods in context to your particular situation, rather than trying to implement particular models or concepts on top of existing structures. This article links quite strongly with the previous chapter called 'The OHS Professional - manager of change or changing manager'; in which many of us believe we are the former, but invariably find ourselves in the latter, as we adapt to the specific environment, (and dare we say, the untrendy word, culture?).

Of equal interest is the section on enterprise bargaining, an area as Blewett and
Shaw recognise, there is 'little or no involvement by OHS Committees and staff in enterprising bargaining in workplaces, it is not surprising that the more familiar issues of shifts, wage rises and leave are dealt with first'. Some would say primarily, with scant regard for the aggravation of current OHS issues, and the birth of new ones, that may result from extended shift hours, workload mix, and minimal retraining opportunities.

Again, don't read this book looking for the magic answer in OHS, instead use it as an approach to question how to achieve improvement and also to understand why achievement is not possible without adaptation and amendment. As mentioned in the foreword, this book offers reflection and opportunity for us to build on in our own unique way.

---

**An Overview of Occupational Injury/Disease Statistics in Australia** (pdf)

Leon Straker

Curtin University of Technology

(istraker@info.curtin.edu.au)

**Abstract**

This paper provides an overview of recent occupational injury and disease statistics from Australia. The mechanisms for data collection and the limitations of the data sets are discussed. Information drawn from the National Data Set is presented to demonstrate the trends in injury data over an eight year period. Breakdowns of estimates of new compensation cases by nature of injury, bodily location and mechanism of injury are discussed. The cost and duration of cases is also described.

---

**Alternative Keyboards: A User Survey** (pdf)

Kenneth Scott Wright, MS

K.S.Wright Consulting Los Banos CA USA

Dr. Anthony D. Andre

Interface Analysis Associates San Jose CA USA

**Abstract**

This article describes the results of an alternative keyboard user survey that was sponsored by Interface Analysis Associates and performed as part of a Master's Thesis, as well as two follow on survey mailings. The 220 participants in the original survey study, and 204 additional participants through two follow on keyboard manufacturer mailings, represent users of a wide variety of alternative
keyboard brands and types. A total of 424 alternative keyboard users from business, government, and educational settings participated in the survey. The questionnaire covered why alternative keyboards are acquired, setup and use patterns, benefits, and recommendations for improvement.

---

**A History of Seating in the Western World** (pdf)

Kim Gurr, Leon Straker and Phillip Moore

Curtin University of Technology, Perth, Western Australia.

This paper is based on the Postgraduate Diploma in Ergonomics research project performed by Kim Gurr under the supervision of Leon (Physiotherapy) and Phillip (Social Sciences). Kim died unexpectedly before finalising this paper. The paper originally had 30 figures accompanying it, but these have been deleted as we were unable to identify all the sources to obtain copyright clearance. However a copy of the original paper including figures is available at: [http://www.curtin.edu.au/curtin/dept/physio/pt/staff/straker/LSscholarship.html](http://www.curtin.edu.au/curtin/dept/physio/pt/staff/straker/LSscholarship.html).

**Abstract**

Seating is an important issue for contemporary ergonomics. Its frequent use by humans and its association with musculoskeletal disorders are just some of the reasons for its importance. To understand the place of seating in modern Western societies it is useful to understand its history. This history is also important as we consider transferring Western ergonomics research on seating to 'other' cultures. This paper presents an overview of the ancient and modern history of Western seating, with particular emphasis on the design influences over this 5,000 year period.

---

**Electronic Resources**

Internet Technical Group (ITG) is currently a Prospective Technical Group of the Human Factors and Ergonomics Society (HFES). ITG is a formalization of an existing group consisting of professionals from industry, academia and government organizations who share a common interest in Internet technologies and related behavioral phenomena. ITG enables and encourages an immediate exchange of research, ideas and technical innovations. This is considered crucial in that the activities of the ITG will supplement traditional modes of dissemination such as professional journals and conferences whose lag times limit their ability to provide professionals with timely information, given the rapid pace of development pervading this field. Furthermore, the ITG works to advance the application of Human Factors principles and methodologies to Internet technologies, as well as promote behavioral study of human-machine and human-computer interaction via the Internet.

The Internet Technical Group (ITG) will be publishing Internetworking, a quarterly newsletter on our web site [http://www.sandia.gov/itg/](http://www.sandia.gov/itg/). This will be a place to exchange information on any topic related to web usability and other internet-related human factors issues. Internetworking is interested in interesting
research you are doing, lessons you have learned in developing for the web, opinions about the state of web development, good books or articles you have read, clever and useful design techniques, tools you use, etc. We particularly want to emphasize things that don't get published other places. For example, late breaking information that shouldn't have to wait until the next conference or tips from design experience you won't find in a journal.

All are welcome to join the ITG and participate in submitting articles, opinions, and reviews to the newsletter - won't you help us in our efforts and share with the Human Factors/Internet community?

---

**Conference Calender**

**1998**

- July 5-8, Sixth International Conference on **Human Aspects of Advanced Manufacturing**: Agility and Hybrid Automation. Hong Kong. Contact: [http://www.spd.louisville.edu/~ergonomics/haamaha98.html](http://www.spd.louisville.edu/~ergonomics/haamaha98.html)
- July 21-24. The 5th **Pan-Pacific Conference on Occupational Ergonomics** Kitakyushu, Japan. fx +81 474 70 2083 email misawa@cc.it-chiba.ac.jp Deadline for abstracts Dec 15, 1997.
- August 2-8. Third **World Congress of Biomechanics**. Sappora, Japan. Fax: +81-6-850-6171 E-Mail: office@wcb98.me.es.osaka-u.ac.jp, [http://wcb98.me.es.osaka-u.ac.jp/](http://wcb98.me.es.osaka-u.ac.jp/)
- August 14-18, The Third **North American Congress on Biomechanics**, University of Waterloo, Ontario, Canada; Contact Stuart McGill email mcgill@healthy.waterloo.ca
- September 15-18th, IFPS'98 International **Fall Protection Symposium**, Wuppertal, Germany. Abstracts due August 1, 1997. Contact Roger Kahler, The InterSafe Group, PO Box 7338, East Brisbane, 4169. Ph. (07) 3895 8111; Fx. (07) 3895 8222.

- **5th - 7th October, Melbourne - Ergonomics Society of**
Australia Annual Conference

contact ESA National Conference Secretariat, Conference Plus, Level 10, 459 Lt Collins St., Melbourne, Australia 3000. Ph. +61 3 9602 3073; Fx +61 3 9642 5152 or email esa@ozemail.com.au.

- October 18-22, The Human Factors Association of Canada (HFAC) 30th Annual Conference in Mississauga, Ontario Tel: (905)567-7193x: (905)567-7191 email: hfac-ace@sympatico.ca

1999

- August 8-13. International Society of Biomechanics Congress. Calgary, Canada. Contact: Ph. +1 403 220 6229, Fax +1 403 284 4184, email: mastroh@acs.ucalgary.ca, http://www.kin.ucalgary.ca/isb99

2000

- **IEA 2000** 29 July-4 August 2000 in San Diego, California, USA. Contact IEA/HFES 2000, HFES, PO Box 1369, Santa Monica, CA 90406-1369, USA; Email: HFES@compuserve.com
- 27 August - 1 September **26th ICOH International Conference**, Singapore. Contact Secretaria ICOH2000, c/o Dept of Community, Occupational and Family medicine Faculty of Medicine MD3, Lower Kent Ridge Road, Singapore 119260.

Information to contributors

The preferable form of submission is via email, either in the body of a message, or as an attachment. Files may also be mailed on floppy, (or Zip disc if very large). Virtually any format of files can be accommodated.

Intending contributors are invited to contact the editor to discuss potential submissions.

All enquiries or feedback should be addressed to the editor, **Robin Burgess-Limerick PhD.**

Email: robin@hms.uq.edu.au

These pages are hosted by the **Department of Human Movement Studies, The University of Queensland**, AUSTRALIA

---

Unless otherwise stated, copyright of materials located at this site remains with the authors. Materials should not be reproduced without the permission of the copyright holder. Materials located at this site should be cited as Author, (date). Title. *Ergonomics Australia On-Line*, available at http://www.uq.edu.au/eao/