



**From The President**

Dear Colleagues,



Few industries provide much in the way of certainties and the industries that are inhabited by geostatisticians are no exception. Indeed, to a large extent, the struggle to manage uncertainty is the *raison d'être* of the geostatistician!

With this in mind, preparations for the GAA Symposium on Quantifying Risk and Error are proceeding vigorously. The response to the call for papers has been sufficiently strong to necessitate a second day of presentations so the symposium will now be held from 21<sup>st</sup> to 22<sup>nd</sup> March 2002.

There are currently 15 confirmed speakers drawn from mining, exploration, biology, economics and environmental backgrounds. Topics include:

- The use of conditional simulations to quantify risk,
- Quantifying resource risk by non-conditional simulation,
- Estimation of environmental exposure for ecological analysis,
- Managing risk and value in exploration,
- The impact of sampling error,
- Reducing the estimation error in finance
- A simulation-based approach to mineral resource classification

The variety of speakers and topics is sure to stimulate plenty of debate, fire the enthusiasm and perhaps spark some new ideas.

The Terrace Conservatory in East Perth has been chosen as the venue for the

symposium. The facilities are excellent, the venue is conveniently located and the staff are friendly. Your committee expects it to be a terrific setting for a fascinating speaking program.

Further program details and registration forms will be released early in the New Year. In the meantime, mark the 21<sup>st</sup>-22<sup>nd</sup> March 2002 in your diaries!

For the commercially minded, there will also be a limited number of attractive sponsorship opportunities.

Since our last newsletter, the GAA has presented talks by Vaughan Chamberlain, Manager of Resources for AngloGold, Nicolas Bez, a researcher from Fontainebleau and Michel Dagbert of Geostat Systemes International in Canada. Vaughan and Nicolas spoke in Perth and Michel in Brisbane. All were well received by those fortunate enough to attend. These were great opportunities to hear of work overseas and I would like to thank the speakers once again for taking the time to speak to the GAA.

I'm pleased to report that we have several new members and that many of our 'lapsed' members have rejoined the fold. Having finished the year with a bit of a flurry and with the Symposium just around the corner, I think we can look forward to an exciting New Year in the GAA.

Until next time, may I wish you all a happy and safe Christmas and a prosperous and fulfilling New Year.

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## **GAA Symposium on Quantifying Risk and Error**

**21<sup>st</sup> to 22<sup>nd</sup> March 2002**

**The Terrace Conservatory, East Perth**

**Speakers drawn from mining, exploration, biology, economics  
and environmental backgrounds**

**Further information from: [www.confed.com.au/gaa](http://www.confed.com.au/gaa)  
or  
[liptoni@imcal.com.au](mailto:liptoni@imcal.com.au)**

### **The Modelling and Simulation Society of Australia and New Zealand**

Your committee has recently been exploring cooperation with the Modelling and Simulation Society of Australia and New Zealand (MSSANZ). The Society is dedicated to promoting, developing and assisting in the study of all areas of modelling and simulation. It has about 500 members in 50 countries drawn from a wide range of disciplines including hydrology, agricultural science,

economics, engineering, atmospheric science and ecology.

The MSSANZ has invited the GAA to convene a special session on geostatistics as part of their MODSIM 2003 conference, which is to be held in Townsville in June 2003. The GAA has also been invited to nominate a representative to the MSSANZ committee. Such a move has the potential to open up a much wider range of contacts for GAA members and is being investigated.

### **Review of applications of geostatistics to fisheries data**

Nicolas Bez, a geostatistician from the Centre de Géostatistique at Fontainebleau, France visited Edith Cowan University recently. During his visit he presented an interesting talk on the application of fisheries data to the GAA. Here is the abstract of his talk:

“The Centre de Géostatistique has undertaken research in fisheries data since 1990. Most of our contributions in this area concern fish abundance estimation on the basis of scientific survey data. At least two types of data sources need to be distinguished: acoustic and trawl data (in fisheries sciences, geostatistics was first used in acoustic surveys as these data are strongly autocorrelated in space). With illustrations based on various European projects we have been involved in, I will review applications performed on both types of data. In particular I will illustrate how difficult the variography might be due to the statistical characteristics of most fisheries data (skewness, location of large values, numerous low or zero values, dependence between the field shape and the regionalisation of fish), and what kind of solutions we have been developing to overcome these problems (robust variogram estimators and transitive approach).

I will take the opportunity of this talk to present also a broad overview of recent studies performed in Fontainebleau and give some news about the actual organisation of the CFSG.”

## IAMG 2001 Conference papers

The Annual Conference of the International Association for Mathematical Geology, IAMG2001, was held in Cancún, Mexico, in September 2001. The conference focussed on the use of mathematical modelling and simulation throughout the geosciences, including basin modelling, simulation of depositional environments, modelling of aquifers and reservoirs, global climate, and ocean circulation, among other topics. The second focus of the conference was on computer mapping and automated cartography as applied to geology including: geologic map data models, data capture, map design, and map distribution technologies. The proceedings of the conference are available online at:

<http://www.kgs.ukans.edu/Conferences/IAMG/program.html#WORKS>

There is really plenty of interesting material there. The abstracts are online and the full papers can be downloaded in pdf format.

## Alienation of Personal Services Income

This article attempts to draw your attention to the New Tax System's way of dealing with contractors and consultants and their income derived from their individual efforts or skills. The article does not represent a total coverage of the subject as each case is different, but hopefully it will steer you to the various Australian Tax Office legislation articles and other sites that will help you to comply with this law.

### HISTORY

The Alienation of Personal Services Income legislation was introduced in July 2000, in an effort to stop tax minimisation schemes. It was meant to catch people who ceased work with a company as an employee on Friday and started work as a contractor/consultant on Monday (both company and individual often gained from this arrangement). It was also aimed at reduction of income splitting by couples where the spouse was a sleeping partner and had no expertise in the industry in which the main party worked, yet received a salary, thus reducing tax liability.

This is not an industry specific tax as it applies to a wide range of people from IT professionals to carpenters. The problem was that the legislation was not specific enough and as a consequence legitimate businesses have been affected. New rulings in August 2001 have amended the original legislation and it is important if you are a contractor/consultant or are considering becoming one that you check that you meet the criteria to qualify as a personal services business.

### CRITERIA FOR QUALIFICATION

The following Information is a summary of the document at the following site:  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3373/index.htm>

You qualify as a personal services business if:

#### EITHER

- a. you meet the results test,
  - Under your contract of arrangement is the personal services income paid to achieve a specified result or outcome?
  - Do you have to provide the tools or equipment necessary (if any) to do your work?
  - Are you liable for rectifying defects in your work?

Further information can be obtained from:

<http://www.taxreform.ato.gov.au/factsh/2001b/nat4769/index.htm>

#### OR

- b. less than 80 percent of your personal services income in an income year comes from each client and you meet one of the other three personal services business tests

- Unrelated Clients test: If you answer yes to the following question you meet the unrelated clients test.  
Does the individual doing the personal services work have personal services income from two or more clients who are not associated with each other or with you (or the individual, if you are a personal entity)?  
Further information can be obtained from:  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3630/index.htm>
- Employment test: If you answer yes to the following question you meet the employment test.  
Do you have employees or engage sub-contractors or entities that perform at least 20% (by market value) of the principal work?  
You can count a spouse or family member who does principal work but not companies, partnerships or trusts associated with you.  
Further information can be obtained from:  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3623/index.htm>
- Business test: If you answer yes to the following question you meet the business test.  
At all times in the income year are your business premises:
  - Owned or leased by you?
  - Mainly used for personal services work (eg, more than 50% of the time) by the individual doing the work?
  - Used exclusively by you?
  - Physically separate from the private residence of the individual doing the personal services work, or their associates?
  - Physically separate from the business address of your clients or their associates?
 Further information can be obtained from:  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3627/index.htm>

**OR**

- c. you obtain a determination from the ATO confirming that you are a personal services business. You can apply if:
- If you are unsure if you meet one or more of the above tests
  - You don't meet the results test and 80% or more of your personal services income comes from one client
  - Unusual circumstances prevent you from meeting one or more of the tests.
- See the following information  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3626/index.htm>

Contractors can self assess and the results test is now the primary test. To obtain more information about how to self assess go to the following site.  
<http://www.taxreform.ato.gov.au/btr/alienation/pubmat.htm>

The main thing to understand is that if you don't pass the tests, you don't have to become an employee of the company you are working for and all your arrangements with the company do not change, but your personal services income is treated as your personal income and must be included in your individual income tax return. As a result you will not be able to claim certain deductions. See the following.  
<http://www.taxreform.ato.gov.au/factsh/2001b/nat4774/index.htm>  
<http://www.taxreform.ato.gov.au/factsh/2000b/nat3517/index.htm>

It is essential that you **consult your tax adviser** or the ATO's Business Tax Information line on 1300 137 619 for advice specific to your case.

#### **OTHER SITES WITH INFORMATION**

The AusIMM discussion page: <http://www.ausimm.com.au/chat/ChatMain.asp>  
The AusIMM What's New page: <http://www.ausimm.com.au/whatsnew/whatsnew.asp>  
MICA: <http://www.mica.org.au>  
Independent Contractors of Australia web page: <http://www.contractworld.com.au>

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## Season's Greetings

### Ideal Christmas Present

Here's an ideal Christmas present for the Geoscientist that is sure to go down well. It comes in the form of a book: "**The Map that Changed the World**" with the secondary title of "The Tale of William Smith and the Birth of a Science" by **Simon Winchester** (a geologist/foreign correspondent). You may know the author from his previous book "The Surgeon of Crowthorne" a story relating how the Oxford English Dictionary came into existence. Of course this all sounds very dry but both these books turned out to be thoroughly entertaining and a good read.

So what is the map and who is William Smith? The map is the first true geological map produced in the world and the man, William Smith, a blacksmith's son and self-taught, is the author. The book traces the story of the map's production and Smith's life. Smith produced the map without financial or professional support. He was imprisoned for debt, turned out of his home, his work plagiarised, his wife was diagnosed as insane and he fell ill. However it all turned out well in the end.

The book is just released and available in most bookshops.

Instead of the tired old jokes in the **Christmas crackers** how about these?  
Or are they just as bad?

The following are with thanks to <http://www.ilstu.edu/~gcramsey/Gallery.html>

A physicist, a **geologist**, and a **statistician** are talking about whose field is the most fundamental. The geologist says his is because it starts with the creation of the Earth. The physicist says his is the most fundamental because his field starts with the chaos in the universe even before the Earth was formed. The statistician smugly says, "And who do you think caused the chaos?"

A statistician is someone who is skilled at drawing a precise line from an unwarranted assumption to a foregone conclusion.

A Bayesian is one who, vaguely expecting a horse, and catching a glimpse of a

donkey, strongly believes he has seen a mule.

Definition of a Statistician: A Mathematician broken down by age and sex.

You know how dumb the average person is? Well, by definition, half the population is dumber than that!

A LOTTERY IS A TAX ON PEOPLE WHO DON'T UNDERSTAND STATISTICS!!

Why are the mean, median, and mode like a valuable piece of real estate?  
LOCATION! LOCATION! LOCATION!

NOTE: An Internet search for **GEOSTATISTICS** and **JOKE** gave no results!!!

## GAA People on the Move

HENRI SANS has left **WMC Resources**

LENORE JEPSEN has left **Anaconda Nickel**

JOHN WARNER has been appointed Resource Geologist for **Helix Resources**

INGVAR KIRCHNER and JOHN TYRELL have joined **Australian Mining Consultants** as Senior Resource Geologists

RICHARD DURHAM has been appointed Associate Professor of Mining Engineering at the **University of Western Australia**

## Membership Fees

Thank you to all those who have renewed their membership fees for 2001-2002. Your continued support provides the foundation for an interesting program of meetings and the forthcoming Symposium on Quantifying Risk and Error that will be held in Perth in 2002. Symposium fees will be structured favourably for GAA members to ensure that you get maximum value from your membership.

The current fees are:

- Ordinary Member \$35,
- Associate Member \$15,
- Student Member \$5.

If you are unsure of your membership category, please check our web site or email John Warner ([rj\\_warner@hotmail.com](mailto:rj_warner@hotmail.com)).

**If you have not already done so, please play your part in the development of geostatistics in the region by becoming a financial member of the GAA. The GAA has a bright future and your committee would like you to be a part of it!**

## GAA Committee 2001 – 2002

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