



## GAA goes international

Three significant “milestone” meetings took place since our Newsletter No.3 of September 1997. Each meeting was of national importance (helping to develop the JORC code, developing international geostatistical liaison and encouraging geostatistical research) and two were hosted by internationally known geostatisticians.

The first meeting was an in-house “discussion/workshop meeting” held at Perth’s QV1 Building, Level 2 Lecture Theatre. There were presentations by John Vann of Geoval, Ian Glacken of WMC Resources and Brett Gossage of Resource Service Group on their interpretations of the proposed revisions to the JORC code. There followed some lively debate on various aspects of the code, particularly about how the proposed changes of the JORC code are likely to affect mining companies and the public perceptions. As will be seen later on this year there will be greater emphasis placed by the JORC code on accountability and honest reporting for resources and reserves. This will flow through to the public and generally increase awareness of the need for both technical and public reports to be “transparent” i.e. listing clearly parameters, methods, results and conclusions as well as expressing any doubts or qualifications/limitations which may materially affect the result. These discussions were part of an ongoing appraisal and feedback on the work of the national JORC committee that is aiming to have a revised and almost completely updated code out during 1998. The ramifications of this will be felt internationally as Australia is considered to be the leader in this field.

The second meeting was held in Perth at the Burswood Resort Hotel on Saturday 22 November and was an end –of –year social function and lunch with guests Professor Danie Krige and his wife Ansie. An attentive, well-fed and watered audience was treated to a very interesting talk on the importance of block size in kriging. If the photographs are anything to go by we were all having a wonderful time! Links with the South African geostatistical community have never been so good and will continue to grow as the GAA becomes stronger.

The GAA’s third meeting was a presentation by Dr. Margaret Armstrong of the Centre de Geostatistique, Fontainebleau, France on Plurigaussian simulation modelling methods for spatial distributions.

This was not as highly technical as it sounds and the capacity audience was treated to a very interesting slide show demonstrating how even the most complex geological occurrences could be mathematically modelled and simulated. The answer lies in the simulation of mineralised shape boundaries and thresholds and the calculation of representative gaussian variograms. Even multiple orientations of conjugate vein sets could be simulated. The system was developed by research into modelling complex oil reservoir situations but has now been adapted to the even more complex Archaean gold and base metal case studies.

Details of this work and relevant research papers can be obtained via John Vann at Geoval.

This type of research is needed in Australia so that we develop more appropriate tools to define and explore our resources. One of the aims in the GAA constitution is to encourage research that will mutually benefit its members as well as industry in general.

At the end of this Newsletter you will find, a notice of a new postgraduate geostatistics certificate by Lynn Bloom at Edith Cowan University which is offering this semester the unit MAT4106, Introduction to Geostatistics. For further information please contact Lyn Bloom as detailed in the notice.

Coming up to our first year in existence, our records are healthy. We now have 86 members, a positive bank balance and have already gone out into the regions. Much of this is also due to the support of our early corporate members and sponsors: Snowden Associates, Geoval, WMC, Data Analysis Australia, Great Central Mines, KCGM and EMC. Their support right from the start has been much appreciated!!

We are actively seeking further support from corporate members and we will keep you updated on progress in the next Newsletter. Please also note the section on our planned meetings for the remainder of this calendar year at the end of this Newsletter.

*Brian Davis, Substitute Newsletter Editor, Email [briand@avi.com.au](mailto:briand@avi.com.au)*

### **GAA Kalgoorlie Regional Update**

GAA's first regional meeting was held on the 22nd August 1997 at the Railway Motel in Kalgoorlie. It was very successful with about 35 people attending, some travelling 300 km just to be there on a Friday night to hear Michelle Franks and Louis Voortman of Snowden Associates present a talk on "How the Mill Can Drive Grade Control".

Taking advantage of Margaret Armstrong's site visit of KCGM's Fimiston and Mt Charlotte operations, 30 or so mining people got together over Christmas drinks on Dec 11<sup>th</sup> to listen to a very enjoyable presentation on the practical application of variography. Margaret entertained us with her experiences with troublesome variograms, reminded us to pay attention to geology and to document well, particularly with respect to due diligence.

I would be very interested in hearing from anyone who would like to give a presentation at our next Kalgoorlie Regional get together in the next few months.

*Donna Kelly, GAA Regional Representative Kalgoorlie., Phone 08 90 221 810 Email [dkelly@kalgold.com.au](mailto:dkelly@kalgold.com.au)*

### **ADVANCE NOTICE - GAA ANNUAL GENERAL MEETING**

The First AGM of the GAA will be held on **Friday, 1<sup>st</sup> May**, at a yet-to-be-decided venue. Duties for the meeting include ratifying the GAA Constitution and electing a new Executive Committee. A copy of the constitution will be made available to all members, as will nomination forms. Please mark this date in your diary - it is very important that we have a good attendance.

*Ian Glacken, GAA Secretary, email [iglacken@snowdenau.com](mailto:iglacken@snowdenau.com)*

### **Affiliations and contacts with professional organisations**

GAA has been approached by Dudley Kingsnorth, AusIMM Councillor for Perth, and we invited him to attend one of our Executive Meetings on 15<sup>th</sup> January 1998. This meeting allowed us to establish formal contact with the AusIMM and discuss points of mutual interest. There was a very positive and friendly interaction and Dudley was impressed with our organisation and objectives to cater for the needs of geostatisticians. Since that cordial first contact Dudley has reported back to us that at the last meeting of the Perth Branch Committee of the AusIMM the following was minuted:

"D.Kingsnorth reported on his attendance at a meeting of the GAA. The group has been established to cater for the needs of geostatisticians. D.Kingsnorth recommends that the Branch co-operates with the Association with the hope that as the Association grows that it may be logical to form a Division within the AusIMM. This view was unanimously endorsed by the Branch Committee."

At this stage the GAA has not held any discussions about this issue, however if there are any strong views out there, what about writing in to us and communicating your ideas?

Discussions are planned for later this year with a representative of the Australian Institute of Geoscientists to hear views on affiliations with that group also.

### **A Letter to the AusIMM Bulletin**

The GAA wrote a reply to an article by H.D. Swain "Due diligence – a proposal". This article, as many GAA members will be aware, advocated a return to manual polygonal methods of resource estimation and presented a case study and reconciliation data. It also pointed out the dangers of using computers and deriving a "black box" answer for estimates without understanding or justifying the parameters used. The article

liberally used the term “Ore Resource” which, as all those people familiar with the JORC Code will know, is an invalid and unacceptable term. Both the original article in Bulletin No.7 (November 1997) and the GAA reply in Bulletin No.1 (February 1998) make interesting reading and, I think, we have put forward some very sane and rational arguments against Mr. Swain’s proposal.

### CALENDAR OF EVENTS

- |                                     |   |
|-------------------------------------|---|
| <b>March 1998</b>                   | Planned Discussion Meeting on the paper published by Stephen Henley and David Watson : Geostatistics – A Critical Review.<br>Venue and date to be confirmed.        |
| <b>May 1<sup>st</sup> 1998</b>      | Annual General Meeting – Notices to be posted soon  |
| <b>October 30<sup>th</sup> 1998</b> | <u>Beyond Ordinary Kriging. Non-linear Geostatistical Methods in Practice.</u><br><b>GAA One-Day Symposium</b> to be held in Perth.<br>See notice – Call for Papers |

### GAA 1997-1998 Executive Committee

<i>John Vann (President)</i>	<i>geoval@ozemail.com</i>
<i>Louis Voortman (Vice-President)</i>	<i>lvoortman@snowdenau.com</i>
<i>Julian Barnes (Treasurer)</i>	<i>rsg_perth@rsg.com.au</i>
<i>Ian Glacken (Secretary)</i>	<i>iglacken@snowdenau.com</i>
<i>Brian Davis</i>	<i>briand@avi.com.au</i>
<i>Lyn Bloom</i>	<i>l.bloom@cowan.edu.au</i>
<i>John Henstridge</i>	<i>john@daa.com.au</i>
<i>Donna Kelly (Kalgoorlie)</i>	<i>DKelley@kalgold.com.au</i>
<i>Roussos Dimitrakopoulos (Brisbane)</i>	<i>roussos@minmet.uq.oz.au</i>

GAA is represented “in the regions” by Daniel Guibal, Henry Sanguinetti, Jenette and Mike Binns in Sydney, John Cottle and Stuart Masters in Melbourne, Donna Kelly in Kalgoorlie, Phil Agnew in Townsville, Ernest Baafi in Wollongong, Peter Brooker in Adelaide and Jim Weekes in Tom Price. Please contact these people if and when you wish to start your own local meeting!!

### Membership

There are four types of Membership:

- Ordinary Membership (full voting rights) annual contribution \$ 30.00
- Associate Membership (no voting rights) annual contribution \$ 15.00
- Student Membership (no voting rights) annual contribution \$ 5.00
- Corporate Membership (by invitation of the Executive Committee)

Membership forms are available by email from Ian Glacken: *GAA Secretary, PO Box 1719, West Perth WA 6872, email: iglacken@snowdenau.com*

### CORPORATE MEMBERS AND SPONSORS

The Executive Committee of GAA wishes to convey its sincere thanks to the companies who have already accepted Corporate Membership with the new Association and the organisations that have sponsored our meetings. Their support and financial contributions during our start-up phase have been much appreciated!

*SNOWDEN ASSOCIATES*

**GREAT CENTRAL MINES**

**GEOVAL**

**KCGM**

**RESOURCE SERVICE GROUP**

***MIM EXPLORATION***

**DATA ANALYSIS AUSTRALIA**

**DATAMINE**

**WMC**

**ARGYLE DIAMONDS**

## **POSTGRADUATE CERTIFICATE IN GEOSTATISTICS**

**EDITH COWAN UNIVERSITY**  
**Perth, Western Australia**  
**Mount Lawley Campus**

This course is available on the Mount Lawley Campus and can be completed in one semester of full-time study (or equivalent part-time).

The course is aimed at providing the theory and methods for the statistics and mathematical modelling used in the analysis of spatial data. Such data arise, as a matter of course in the earth and environmental sciences and this course is of particular relevance to workers in the mining industry.

**For further information, please contact the Course Coordinator:**

**Dr Lyn Bloom**

**School of Computer, Information and Mathematical Sciences**

**Tel: (08) 9370 6360**

**Fax: (08) 9370 6197**

**Email: [l.bloom@cowan.edu.au](mailto:l.bloom@cowan.edu.au)**

## **AIG SEMINAR**

**MORE MEANINGFUL SAMPLING IN THE MINING INDUSTRY**

**or**

***“WHY BUSANG OR JOSH COULD NOT HAPPEN IN AUSTRALIA”***

The Western Australian Branch of the Australian Institute of Geoscientists is holding a one-day seminar at the Novotel Langley Hotel, Perth on **Friday 19 June 1998**.

*Please note that this has been changed from the previously advertised 12<sup>th</sup> June.*

A preliminary program, list of speakers and papers has been published in the AIG News of February 1997. Please see this publication for more details.

The subject undoubtedly is of great interest to geostatisticians and the GAA urges its members to attend. Bookings paid prior to April 30<sup>th</sup> 1998 are \$280 to AIG members and \$300 to non-members. After this date the entry fee is \$350 per person. Entry fee includes morning and afternoon teas, buffet lunch, happy hour and a copy of the proceedings. If the previous AIG sampling seminar is anything to go by, they had a record attendance and are still selling copies of the published bulletin 11 years later!

The preliminary topics and the speakers are:

W.J.Shaw (M&RT) Keynote address on the role of the AIG in maintaining industry standards.

I.Neuss (Outokumpu) Sampling myths and legends or what we have learned from Busang.

M.J.Freeman (DME) Karpa Spring Gold Prospect – more lessons from the fraud.

B.Davis (AIG) What is a sample? What does it represent? (Quality Control in sampling)

G.Leppard (Analabs) The Laboratory Quality Control trail- confidence in results.

A.Wesson (Geoval) Can you afford not to bulk sample?

L.Voortman (Snowden) Avoiding over- or under-estimation of grade by using correct sample preparation methods.

J.F.H.Barnes (RSG) Sampling to suit the orebody.

S.Denn (Centaur) Large diameter hole sampling at Cawse nickel project – an innovative solution to metallurgical testing.

J.M.Chisholm (CRM) Sampling practises abroad.

There is room for a further two speakers on similar themes. Also other contributions, especially for posters or short articles that do not necessarily require a speaker are welcome.

There will be some space available for trade displays or company promotions and details can be obtained from the following:

Brian Davis, Convenor at phone (08) 9327 8211, fax (08) 9321 0294 Email [briand@avi.com.au](mailto:briand@avi.com.au)

or

Jocelyn Thomson, WA Branch Secretariat on (08) 9310 8405 (phone/fax)

Email [aigwa@opera.iinet.net.au](mailto:aigwa@opera.iinet.net.au)

The Geostatistical Association of Australasia



# Beyond Ordinary Kriging:

## Non-Linear Geostatistical Methods in Practice

A 1 day Symposium to be held in Perth on  
Friday 30<sup>th</sup> October 1998

**Call for Papers**

### *Suggested Topics:*

- **Mining** — Recoverable Resources, Indicator & Non-Indicator Methods, Estimation of Non-Grade Variables, Geological and Metallurgical Applications.
- **Environment** — Contamination Mapping, Biological Applications, Ecological Mapping, Medical Applications, Soil Sciences & Agriculture.
- **Petroleum** — Reservoir Mapping, Recoverable Resources/Reserves, Geological Applications.
- **Other** — Hydrogeology, Engineering Geology, Forestry, Fisheries, Geophysics.

Potential **authors are requested to submit titles and abstracts** (300 word maximum) **of their papers to —**

The Convenors — Beyond Ordinary Kriging  
C/- Geostatistical Association of Australasia  
PO Box 1719, West Perth, Western Australia, 6872  
**by 30<sup>th</sup> April, 1998**

... for more information contact the Convenors:

Dr. Julian Barnes Tel: 08 9481 0885  
Dr. Lyn Bloom Tel: 08 9370 6360  
Mr. Brian Davis Tel: 08 9327 8211  
Mr. John Vann Tel: 08 9221 0600