



# SGA News

January 2010

Number 26

## The 10th Biennial SGA Meeting, Townsville, Australia, 17-20 August 2009: Smart Science for Exploration and Mining

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Tropical North Queensland laid on its typical dry season weather in greeting arriving participants in the 10th Biennial Meeting with clear blue skies and magnificent views of the Coral Sea. Those who were able to turn their eyes landward would have noticed the activity at the nearby Townsville port, one of Australia's principal minerals handling facilities both for exports of products from the region's many mines, and for imports of raw materials serving an important metal refining industry in the Townsville area. The city's strong connection with mining has been a major influence on the development of geology as a discipline at James Cook University, amongst other things, supporting its Economic Geology Research Unit (EGRU) that hosted the meeting on behalf of SGA. It also provided participants with the opportunity to experience one of the world's most renowned mining regions at first hand. The meeting was convened by Nick Oliver, Brian Rusk and Pat Williams from EGRU with the theme, „Smart Science for Exploration and Mining“ reflecting a major driver in recent Australian minerals deposits research. That is, the need to more effectively apply science to meet the progressively increasing challenges of ex-

ploration and mining in a continent largely characterized by deep weathering profiles, and where prospective rock sequences are widely concealed under cover. These challenges are of course by no means unique to Australia and the fact that new mineral resources will inevitably become harder to find through time is something that the whole world must come to terms with. The conference was managed by EGRU in partnership with specialist events manager Tailored Statements with the majority of the huge workload being carried by Judy Botting (EGRU's Acting Manager for the majority of the year preceding the meeting) and Antoinette Woods (Principal of Tailored Statements). The months leading up to the meeting coincided with the greatest global economic downturn that most people living today have ever seen. Exploration expenditure and institutional travel budgets alike were slashed. Coupled with the considerable travelling distances that confronted the majority of potential participants this might have spelled disaster. However, in the event and particularly in the light of these circumstances, the meeting can be regarded as a great success in terms of its technical program, overall participation and

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# SGA General Assembly, Townsville, Australia, August 19, 2009

J. Pašava (SGA Executive Secretary), jan.pasava@geology.cz

## 1. Introduction and agenda

J. Pašava, D. Groves

## 2. Presentation of the SGA-Newmont Gold Medal to Prof. Dr. Shunso Ishihara (Japan)

Introduction – J. Pašava, history of the medal – G. Borg presentation of the medal – D. Groves (SGA) and S. Turner (Newmont), citation – D. Champion, acceptance speech – S. Ishihara.

## 3. Presentation of the SGA-Barrick Young Scientist Award to Dr. David Holwell (U.K.)

Introduction and history of the award – J. Pašava, citation – D. Groves, presentation of the award – D. Groves (SGA) and R. Brommecker (Chief Geologist, Australia-Pacific, Barrick Gold), acceptance speech – D. Holwell.

## 4. Presentation of the Best Paper in MD Award to Dr. Martin Reich (Chile)

Reich M, Palacios C, Parada MA, Fehn U, Cameron EM, Leybourne MI, Zuniga A (2008) Atacamite formation by deep saline waters in copper deposits from the Atacama Desert, Chile: evidence from fluid inclusions, groundwater geochemistry, TEM, and <sup>36</sup>Cl data. MD 43: 663-675. Introduction – J. Pašava, history and citation – B. Lehmann and P. Williams, acceptance speech – M. Reich.

## 5. Report of the President

D. Groves (SGA President) delivered the

SGA activity report that covered the period from the previous SGA General Assembly (August 21, 2007, Dublin, Ireland) to date. The report was approved by the General Assembly.

## 6. Report of the Treasurer

David Leach (SGA Treasurer) presented the Financial Report for the fiscal year of 2008. The report was approved by the General Assembly.

## 7. Report of the Executive Secretary on SGA past and future activities

Jan Pašava summarized major past and future SGA activities.

## 8. Report of the Chairman of the Nominating Committee

David Groves (Chair of the Nominating Committee) presented a list of candidates for the SGA officers for the 2009 ballot. Both electronic voting through the SGA website (where available) and also mailed hard copies will be arranged.

## 9. Invitation to the SGA 2011 Meeting in Antofagasta, Chile

Eduardo Campos (Chair of the LOC), presented an invitation to the 11th SGA Biennial Meeting that will be held in Antofagasta, Chile from September 27-30, 2011.

## 10. Various

**APPLICATIONS** to SGA for meeting sponsorship must be submitted to Jan Pašava, SGA Executive Secretary, on appropriate forms available at the SGA home page on Internet: [www.e-sga.org](http://www.e-sga.org)

Other requests will be not considered.

Your suggestions and ideas for any topic of interest to SGA are welcome! They can be addressed to any Council member or to

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# SGA News

No. 26 January 2010

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30 April 2010

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# News of the Society

## SGA Ordinary Council Meeting, August 16, 2009, Townsville, Australia

J. Pašava (SGA Executive Secretary), jan.pasava@geology.cz

### Results of Council Vote on SGA Awards (J. Pašava, D. Huston)

The report was presented by J. Pašava and D. Huston. After discussion, Council approved that the Award Subcommittee will prepare a revised version of the description of the SGA-Newmont Gold Medal and also SGA-Barrick Young Scientist Award (age limit raised to 40 years) for the next Council meeting (D. Huston et al.) Council approved both reports with great thanks and highly appreciated the work of the Award Subcommittee that resulted in a very competitive list of nominees.

### Status for SGA 2009 in Townsville (P. Williams)

The report was presented by P. Williams. The report was presented by P. Williams. To date, 479 participants including exhibitors were registered (expected about 500 delegates). Expected revenue for SGA is around 10 000 to 20 000 EUR with the final figure being highly sensitive to the number of on site registrations that will return proportionally much more to SGA. "To date, 479 participants including accompanying members were registered (expected about 500 delegates). Expected revenue for SGA is around 10 000 to 20 000 EUR. For Antofagasta 2011 SGA Meeting, SGA Council recommended to get back to the previous "fund raising model" that was successfully applied for Beijing and Dublin SGA meetings. Council greatly appreciated efforts of the LOC - namely Pat Williams. P. Williams and D. Groves will write a brief article on the Conference for the upcoming SGA NEWS – some photos available from J. Pašava.

### Status of Planning for SGA 2011 in Antofagasta – Including Signing the MOU (E. Campos, F. Tornos)

The report was presented by E. Campos. The 11th SGA Biennial Meeting "Magmatic/hydrothermal systems and the origin of ore deposits" will be held in Antofagasta, Chile from September 27 to 30, 2011. The MOU was signed by the Rector, Universidad Católica del Norte (Antofagasta) and SGA President and it was agreed that the provisions in the "Guide for Organizing and Managing a SGA Biennial Meeting" (downloadable at the SGA website) will be followed by the LOC. An information leaflet on the meeting was distributed at the Townsville conference and an invitation to Antofagasta was presented at the SGA General Assembly by E. Campos. E. Campos will work on a draft of the First Circular and send it to J. Pašava (by October 2, 2009), who will distribute it to Council Members for their comments. Eduardo Campos will also prepare an invitation to the SGA 2011 meeting for the upcoming SGA News and send it to M. Chiaradia by October 30, 2009. Council approved the report with best thanks. Special thanks went to Carmen Conde for her significant help in the preparation of the leaflet for the SGA 2011 Antofagasta Meeting.

### Reports of Officers on Council and Matters Arising from These Reports

Reports were submitted by the SGA Executive Secretary, Regional VP for Australia/Oceania, Treasurer's Office, Promotion Manager, Editor of SGA Website, and orally presented by the VP for North Africa. After discussion, Council approved the following:

G. Beaudoin will keep SGA Executive informed about a possible

second printout of the Short Course Volume on U-deposits jointly with GAC-MAC.

S. Lange will send several reminders to all members to not forget to renew their membership (few months before and few months after the actual deadline). S. Lange will create a list of „lost members“ to be published in the upcoming issue of SGA News and send it to M. Chiaradia (by October 30, 2009).

Regional VP's and other Council Members will receive from S. Lange a list of members who did not pay their fees so that Members will be able to get in touch with them and ask them to renew.

The price for SGA Proceedings from Beijing Meeting was reduced to 30 EUR + postage and for SGA Proceedings from Dublin Meeting to 50 EUR + postage (should be advertised through SGA website - G. Beaudoin and SGA News - M. Chiaradia).

Council approved all reports with great thanks. Special thanks went to D. Groves and G. Borg for their hard work for SGA over the years. Their term expires at the end of 2009.

### Editorial Matters (B. Lehmann, P. Williams)

The report was presented by B. Lehmann and P. Williams. Journal production is on time and runs smoothly. Several thematic issues are in preparation. The Editorial Board has three new members. The 2008 Thomson Reuters Journal Impact Factor of MD is 2.04 (rank 5 among 25 mineralogy journals - EG=1.27, OGR=2.37). B. Lehmann and P. Williams will write a brief article introducing the MD Editorial Board for the upcoming issue of SGA News. Council approved the report with great thanks.

### Progress Report on Membership Drive in 2008 (P. Eilu, J. Pašava, A. Vymazalová)

The report was presented by J. Pašava. Great thanks to all Council Members who followed the approved SGA Membership Drive suggested by D. Groves. This initiative was a great success, with 220 out of 231 new members that joined SGA during the past 23 months being sponsored by Council Members. Council approved the report with great thanks and approved continuation of this effort.

### Sponsorship Drive in 2009 (P. Williams, D. Leach)

Funds available for student sponsorship in Townsville includes \$28,800 AU (16,956 EURO) from the Dublin residual student funds and \$11,465 (6,750 EURO) AU from contributions received by the LOC for a total of \$40,265 AU (~23,706 EURO). These numbers should be considered preliminary until the accounting of the Townsville conference account is finalized. The disappointing low amount of contributions resulted in the depletion of residual student fund in the SGA account. Although we expected a decline in the contributions relative to previous biennial meetings due to the difficult global financial conditions, other factors contributed to the bottom line. These factors include the centralization of all sponsorship activities within the LOC and the way the corporate sponsorship was organized and managed. One conclusion from this experience is that future student sponsorship must be organized and managed by SGA. An accounting of the student funds and recommendations for future fund raising will be detailed in the next council meeting. We especially thank David Groves and Cam



McCuaig for their last minute involvement in recruiting funds from industry for the student program.

#### Policy on SGA Student and Young Scientist Chapters

(A. Vymazalová and J. Relvas)

The document was presented by A. Vymazalová. Council approved the proposed Facebook model and decided to leave it entirely up to existing Chapters how they will communicate with each other. Council highly appreciated the efforts of Anna, Jorge and Filipa Marques and approved the report with great thanks. More details on student's issue are available from Anna Vymazalova (anna.vymazalova@geologz.cz).

#### Requests for Sponsorship

-SGA session on "Crustal Fluids and Gold" at IMA Budapest 2010 – H. Frimmel – EUR 1000 approved to support two keynote speakers.

-SGA Mineral Deposit Field trip to the Bohemian Massif - IMA 2010, Budapest – contribution to trip leaders (will be specified).

#### MOU with SEG on Booths at Biennial Meetings

The draft of the text, which will be sent to SEG Executive Director, was presented by D. Groves.

#### Any other business

##### - Status of bids for SGA 2013 Meeting (J. Pašava)

J. Pašava informed Council that to date SGA had received only an updated Turkish proposal - deadline for proposals is December 31, 2009. Council welcomed the receipt of this proposal well before the deadline and, after some discussion, Council recommended the Turkish group to submit a revised version, which would follow requirements summarized in the „Guide for the Organizing and Managing a SGA Biennial Meeting“ and which would consider the possibility of having the meeting organized in September, field trips organized to other deposits outside of Turkey, etc. Council will wait until the end of this year for all incoming proposals and will decide on the venue of the 2013 SGA Biennial Meeting in March 2010. During SGA 2009, a group from South Africa indicated that they may make a formal bid for the SGA 2013 meeting.

##### - Status of SGA – IAGOD Relationship (D. Groves)

D. Groves informed Council about the stalemate situation regarding this issue despite extensive correspondence seeking to find a compromise position.

##### - Strategy on Future SGA Publications (R. Foster)

Council appreciated the report of Bob Foster and, after some

discussion, recommended that the SGA Publication Manager will focus on getting materials from Latin-American Metallogeny Courses, newly planned African Metallogeny Course (F. Tornos and G. Borg) and Chilean short course volumes and Excursion Guides (E. Campos et al.) published under SGA. Council also felt that a thematic issue of MD on gold deposits (edited by Groves and Foster) would be more useful for SGA than a special publication.

##### - Report on the XXVIII UNESCO-SEG-SGA Course on Metallogeny held in Belo Horizonte, Brazil, between the 19th and 26th May, 2009

F. Tornos presented the report. He noted that SEG have decided to lower their contribution to the 2009 edition. Minimum budget to keep the courses running is about EUR 6-7000 (with UNESCO support of USD 2000). Council approved the report with great thanks.

##### - Proposal for SGA-UNESCO Metallogeny Courses in Africa (G. Borg, F. Tornos)

The proposal was presented by G. Borg and F. Tornos. The first course should be organized in Tanzania in 2011. Council approved to develop this concept into a flagship SGA product, recommended to discuss relevant issues with SGA Publication Manager and Promotion Manager, and to submit a more detailed budget for the next Council meeting. Organizers should also contact regional universities to advise them on the possibility of having MD from Springer free of charge and to consider if powerpoints should be sold in pdf form through SGA.

##### - Proposal for SGA Participation in the 34th IGC – Brisbane, Australia (D. Huston)

The proposal was presented by D. Huston. SGA Council approved that D. Huston will become SGA liaison person for the next IGC (2012, Brisbane, Australia) and that SGA will organize two sessions: (1) New age metals: the geology and genesis of ores required for a changing economy and a carbon constrained world ; and (2) Declining exploration success: diagnosis, prognosis and cure.

##### - SGA General Assembly at Townsville (J. Pašava)

Revised agenda for the SGA General Assembly was presented by J. Pašava. Council approved the updated agenda.

##### Date and Place of the Next Council Meeting

The next Council Meeting will be held in Hammamet, Tunisia in March 2010 (most likely during the week from March 22 to March 28, 2010). The precise date will be announced in due time.



Emeritus Professor David I Groves, the current President of SGA, was recently informed that he had been awarded the Penrose Gold Medal of the Society of Economic Geologists for 2010 through a nomination coordinated by Professor Rob Kerrich. The Penrose Gold Medal, the highest award given by SEG, was established in 1923 to be awarded primarily in recognition of a full career in the performance of "unusually original work in the earth sciences", which shall be broadly interpreted to encompass major contributions to (a) the science through research, (b) the profession through teaching, program administration, and development of exploration technology, and (c) the development of mineral resources through mine geology, exploration, and discovery. The medal may be awarded annually, but no less frequently than once every three years. A nominee

for this honor need not be a member of the Society. Interestingly, David's PhD supervisor, Professor Mike Solomon, was awarded the Penrose Medal in 2008. David also received the good news that he is to be awarded an honorary Doctor of Science for the University of Western Australia in 2010 for his scientific and mentoring contribution to the University and global geosciences.

He is particularly pleased to have received these honours while acting as President of SGA from 2008 to 2009.

## SGA COUNCIL 2010

|                     |                                    |
|---------------------|------------------------------------|
| President           | F. Tornos (Spain)                  |
| Vice-President      | P. Weihed (Sweden)                 |
| Executive Secretary | J. Pasava (Czech Republic)         |
| Treasurer           | D. Leach (USA)                     |
| Promotion Manager   | H. Frimmel (Germany)               |
| Chief Editors       | B. Lehmann (Germany) - MD          |
|                     | European Office                    |
|                     | P. Williams (Australia) - MD       |
|                     | Australian Office                  |
|                     | M. Chiaradia, C. Heinrich          |
|                     | (Switzerland) - SGA News           |
|                     | G. Beaudoin (Canada) - SGA website |
| Student Represent.  | A. Vymazalová (Czech Rep.)         |

## Regional Vice-Presidents

|                   |                         |
|-------------------|-------------------------|
| Asia              | Z. Hou (China)          |
| Australia/Oceania | D. Huston (Australia)   |
| Europe            | A. Cheilletz (France)   |
| Middle East       | H. Harbi (Saudi Arabia) |
| North Africa      | S. Bouhlel (Tunisia)    |
| North America     | A. Conly (Canada)       |
| South Africa      | J. Kabete (Tanzania)    |
| South America     | E. Ferrari (Peru)       |

## Councillors: term ending on December 31, 2011

|                         |
|-------------------------|
| F. Bierlein (Australia) |
| K. Kelley (USA)         |
| P. Williams (Australia) |
| R. Foster (UK/Turkey)   |
| R. Presnell (USA)       |
| V. Shatov (Russia)      |

## Councillors: term ending on December 31, 2013

|                               |
|-------------------------------|
| S. Roberts (U.K.)             |
| S. Diakov (Canada, East Asia) |
| P. Eilu (Finland)             |
| A. Piestrzynski (Poland)      |
| F. Hongrui (China)            |
| J. Relvas (Portugal)          |
| R. Smith (Australia, China)   |
| E. Campos (Chile)             |

## Ex officio Members, SEG

|                    |                              |
|--------------------|------------------------------|
| President          | J. W. Hedenquist (Australia) |
| Executive Director | B. G. Hoal (USA)             |

## Ex officio Members, IAGOD

|                      |
|----------------------|
| Secretary General    |
| Membership Secretary |

## LIST OF NEW SGA MEMBERS (APRIL 1-OCTOBER 31, 2009)

39 Regular Members and 64 Student Members applied for membership from April 1 to October 31, 2009

## REGULAR MEMBERS

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## SGA AWARDS AT THE 10TH BIENNIAL MEETING IN TOWNSVILLE

Jan Pašava (SGA Executive Secretary)

Czech Geological Survey, Prague, email: jan.pasava@geology.cz

In order to increase a number of meeting participants at the SGA General Assembly, SGA Council approved at its ordinary meeting in Würzburg, Germany (April 2009) to combine the SGA General Assembly with Awards Ceremony at the 10th SGA Biennial Meeting. The following SGA awards were presented during the SGA General Assembly, which was held on August 19, 2009 from 14.30 to 15.30:

### The SGA-Newmont Gold Medal

The SGA-NEWMONT Gold Medal was established in 2006 to be awarded biannually primarily in recognition of a full career in performance of „unusually original work in the mineral deposit sector, which shall be broadly interpreted to encompass major con-

tributions to (1) the science through research and (2) the development of mineral resources through mine geology, exploration and discovery. The award consists of a citation, pure gold medal, and travel to the Biennial meeting for the presentation.

The first recipient of this most prestigious award was Dr. Zdeněk JOHAN (France) at the 9th SGA Biennial Meeting in Dublin, Ireland (2009).

The second recipient of the SGA-Newmont Gold Medal became Dr. Shunso ISHIHARA (Japan) who was nominated by D. Champion and finally selected by SGA Council out of four pre-selected candidates. After introduction by J. Pašava and explanation of the history of the medal by G. Borg, the medal was presented by D. Groves (SGA President) and S. Turner (Newmont Representative).



The following citation was prepared and delivered by D. Champion (Geoscience Australia):

*Mr. Chairman, Ladies and Gentlemen,*

*I am honoured to present the citation of Dr. Shunso ISHIHARA – the second recipient of the SGA-NEWMONT GOLD MEDAL. Although I have known him for less than 10 years I have been influenced by his work for the last few decades. Dr. Ishihara graduated from Hiroshima University in 1956. In 1961 and 1962 he studied at the Colorado School of Mines and he graduated with an MA from Columbia University in New York in 1963. In 1970 the University of Tokyo awarded him its degree of Doctor of Science. Between and after his degrees Dr Ishihara was employed within Japanese government agencies, principally the Geological Survey of Japan, until 1993. From 1989 to 1991 he was Director of the Geological Survey of Japan and from 1991 to 1993 he was the Director-General of the Agency of International Science and Technology. From 1993 to 1997 he was a Professor of Geology at Hokkaido University. Following his retirement from that position he has remained extremely active, has travelled very widely, and is a Special Councillor to the Geological Survey of Japan.*

*During this period Dr Ishihara has published 251 original papers, which includes 156 written in English and 95 in Japanese.*



Fig. 1 – S. Ishihara receives the SGA-Newmont Gold Medal from S. Turner (Newmont) in presence of J. Pašava (SGA Executive Secretary). Photo by T. J. Beardsmore.

*He has also written or edited twelve books, six in Japanese and six in English. Dr Shunso Ishihara has made many important contributions to our science during his distinguished career as a research geologist and administrator. His research is very much focussed on mineralisation and he has made a major contribution to understanding the relationship between different types of mineralisation and various types of granites. He is best known for his recognition of the magnetite-series and ilmenite-series granite scheme – a concept he has continued to develop and apply to many other granites, including the mineralised Circum-Pacific. Dr Ishihara's recognition of "oxidised" and "reduced" granites has been fundamental cornerstone to developing an understanding of the role of granite geochemistry, e.g., the oxygen fugacity, has on associated mineralisation. The recognition of the association of Sn, W, Mo and Cu mineralisation with granites of different oxidation states by Dr Ishihara predated experimental studies which have demonstrated the relationship between the behaviour of those elements and oxygen fugacity. He was first to point out that the degree of oxidation of a granite magma may be related to geographic location, also with important implications for associated mineralisation. Although the magnetite-ilmenite scheme was introduced in 1971, it remains the basis for the metallogenic classification of granites to this day. It can be applied equally well using either field, laboratory-based or airborne (remote) methods. His research is a unique and substantial contribution to developing our understanding of mineralisation. Dr Ishihara also has had a distinguished administrative career with the Japanese government, culminating with the responsibility for all research in the Ministry of International Trade and Industry.*

*Dr Ishihara's contributions to science have been recognised by many organisations. He is an Honorary Fellow of the Geological Society of America (1999), and a Foreign Member of the Russian Academy of Science (2003). He has also received a number of awards and medals, including a Silver Medal, from the Society of Economic Geologists (1989).*

*Although now retired, he is very active and remains extremely influential in Japanese science, industry and government. He has played an important role in various international meetings in Japan, e.g., Secretary General of the Kyoto International Geological Congress. He also continues to facilitate contact between Japan and other countries, as anyone who has experienced his hospitality in Japan can attest. He continues to travel widely and many of us have been fortunate to have the pleasure of showing him some local geology.*

*On behalf of the SGA I would like to congratulate Dr. Ishihara, and wish him the best for continued achievements in the geosciences, and good luck in his private life.*

The following acceptance speech was delivered by Dr. S. Ishihara:

*Mr. President, Dear colleague, Ladies and Gentlemen,*

*It is a great honor for me to receive the second SGA-New Mont Gold Medal. I would deeply appreciate the recognition of importance of fO<sub>2</sub> of granitic magmas for metal concentration.*

*I was born and raised in eastern suburbs of Hiroshima city, which is located in the center of the largest granitic batholith of*

*Cretaceous-Paleogene age in Japan. In August 6, 1945, I discovered by sight B29 flying over our primary school at 10 minutes after 8 o'clock, then crossing over the Hiroshima city. I saw flashing of A-bomb at 5.2 km distance, few seconds later, I was blown down together with wooden-window frame and ceiling of the primary school. I was the 6th grade at the age of 11. We had to take care of many burned and injured people escaped from the city in that afternoon.*

*When I entered to the Geological Survey of Japan in April, 1956, peaceful use of atomic energy of the Japanese government was initiated. All the new comers were located in the nuclear-resource section. I found good uraninite concentration in molybdenite-quartz vein deposits in the largest Mo mine, called Higashiyama. Therefore, I had a good excuse to study molybdenum-deposits, and continued it to PhD.*

*When I finished to study all the molybdenum-deposits in Japan, I found that quantitatively (i.e., production plus reserves), nearly all the molybdenum deposits occur along the marginal sea side, but tungsten deposits along the Pacific side of the batho-*

*lith. Molybdenite is flaky and very visible often together with wolframite and scheelite. Therefore, in the previous metallogenic maps, the symbol, Mo, is described both in molybdenum and tungsten deposits.*

*About the host rocks, I also found over 97 % of molybdenum was hosted in granites, nearly 50 % of tungsten is hosted in granites, implying that there must be some difference in the granites from the ore geology view. However, then-current petrologist summary was that they are the same younger-type pink granites. Then, I asked our Research Planning Office in 1969 to do 22 days field work in the Tungsten province. The following modal analyses indicated clear difference in the amount of opaque minerals, which is due to difference in magnetite content.*

*I have been thinking genesis of the Japanese largest molybdenum deposits, since I visited there in 1957. I have been thinking it even when I was studying Questa Mo deposits in U.S.A. for my Master Degree. I feel "continuous thinking" and/or "power of thinking" are most essential to have new idea and to make progress in science.*

*August is a special month for me because I saw hundreds of burned and injured people escaping by walking from Hiroshima city in the afternoon of August, 6. For this experience, we have been saying "No more Hiroshima" in the past. Now un-necessity of nuclear weapon is more widely recognized, as shown by the U.S. President Obama's speech in Prague, last April. I hope we have a better future in the coming century.*

*Thank you for your attention.*

### The SGA-Barrick Young Scientist Award

The former SGA Young Scientist Award (established in 2003) was approved to be changed to the SGA-Barrick Young Scientist Award from 2007. The award is offered biannually to a young scientist who has contributed significantly to the understanding of mineral deposits. It consists of a citation, certificate, EUR 1500 and travel expenses to the place of the Biennial Meeting for the presentation. The award is given for contributions to economic geology published before the author's 35th birthday.



Fig. 2 – D. Champion (Geoscience Australia), S. Ishihara (SGA-Newmont Gold Medal), D. Groves (SGA President), J. Pašava (SGA Executive Secretary). Photo by T. J. Beardmore.



The recipient must be less than 37 years of age on January 1 of the year in which the award is presented.

The first recipient of this award was Dr. Noreen Vielreicher (Australia) – 2003

The second recipient of this award was Dr. Alexandre Raphael Cabral (Brazil) – 2005

The third recipient of this award was Dr. Gilles Levresse (France)-2007

The fourth recipient of the SGA-Barrick Young Scientist Award became Dr. David HOLWELL (UK) who was nominated by A. Boyce and finally selected by SGA Council out of seven candidates. After in-

troduction and explanation of the history of the award by J. Pašava, citation was read by D. Groves (SGA President), who jointly with R. Brommecker (Chief Geologist, Australia-Pacific, Barrick Gold), presented the award. Acceptance speech was delivered by Dr. D. Holwell (UK).

The following citation was prepared and presented by D. Groves:

*David is an Honours graduate of Durham University, an MSc graduate of Cranbourne School of Mines, and a PhD graduate at Cardiff University, all in the UK.*

*To date, David's research focus has been on the giant Platreef PGE deposit in South Africa, in collaboration with his supervisors, Dr Iain MacDonald, and with Dr Adrian Boyce, his nominator and a Councillor of SGA. David has now published a substantial body of peer-reviewed publications which have provided a much improved understanding of the genesis of the Platreef, and PGE deposits in general. In particular, his research has pointed to an hiatus between the Platreef and overlying magma, resolved the source of sulphur, realised the potential implications of high-PGE sulphides in a staging magma chamber, and demonstrated sulphide-liquid migration and associated PGE fractionation processes. In doing this research, he has integrated classic techniques of field mapping and mineralography with state-of-the-art, analytical methodologies to develop a holistic model firmly based on field relationships. During these studies David received outstanding support from Anglo Platinum and in particular, Robert Schouwstra and Gordon Chunnnett.*

*What most impresses me, as a prolific PhD supervisor, about David is not only his Christian name but the fact that he completed his PhD thesis within the requisite 3 year period AND published 6 papers within the period. I only know of two others with similar achievements, both interestingly with names starting with D.*

*This is not the only Award that David has received in a short career. He was awarded the Wardell-Armstrong Prize of the Institute of Materials, Minerals and Mining for one of his seminal papers in 2006 and awards for both the best oral presentation AND poster at the Geological Society of London's Flagship Fermor Meeting in 2006. He has recently been appointed a Lecturer in Economic Geology at Leicester University.*

*I think it is fair to say that David is a truly worthy recipient of the SGA-Barrick Young Scientists Award. Adrian Boyce indicates that the only downside is that he supports Sunderland rather than Manchester United.*

*The Award will be presented by Rex Brommecker, Chief Geologist Australia-Pacific of Barrick.*

*The acceptance speech was delivered by D. Holwell.*



Fig. 3 – D. Holwell receives the SGA-Barrick Young Scientist Award from Rex Brommecker (Barrick Gold) in presence of D. Groves (SGA President). Photo by T. J. Beardsmore.

### The SGA Award for the Best Paper in Mineralium Deposita.

The award (established in 1999) is presented every two years at the Society Biennial Meetings and consists of a citation, certificate, EUR 1500 and travel expenses for the first author associated with the receipt of the award.

Based on the recommendation of Chief Editors, MD, and after some discussion Council approved that the paper by Reich M, Palacios C, Parada MA, Fehn U, Cameron EM, Leybourne MI, Zuniga A (2008) Atacamite formation by deep saline waters in copper deposits from the Atacama Desert, Chile: evidence from fluid inclusions, groundwater geochemistry, TEM, and  $^{36}\text{Cl}$  data. MD 43: 663-675, will receive the award.

After introduction by J. Pašava, history and citation by B. Lehmann and P. Williams, the award was presented by B. Lehmann and P. Williams (Chief Editors, Mineralium Deposita). The acceptance speech was presented by M. Reich.

### The SGA Awards for the Best Student Oral and Poster Presentation

(by Anna Vymazalová, Czech Geological Survey, Prague)

In order to encourage students to participate in the SGA activities and to reward excellence in their scientific work, the Best Oral and Poster Presentations given by students were awarded.

A Conference Student Committee constituted by Craig Hart, Bernd Lehmann, Jorge Relvas, Brian Rusk and Anna Vymazalová based on high quality and scientific merit of the student's presentations decided to attribute the awards to three students of each category (each of them received a certificate and 350 AUD).

The following students were awarded for:

#### The best student presentation

**Kathryn Kitney:** Structural, mineralogical, geochemical and geochronological investigation of the Barry Gold Deposit, Abitibi Subprovince, Canada: Precisely dated greenstone-hosted mineralization co-

eval with late archean deformation and magmatism.

**Maarten Haest:** The influence of supergene reworking on variations in the Cu isotopic composition in the Dikulushi Cu-Ag deposit (DRC).

**Irina Tretjakova:** The hydrothermal cobalt deposits of Altay-Sayan fold area: Age and relationships with magmatism.

#### The best student poster

**Michelle Deakin:** Metallogeny of the Pb-Zn-Ag-Au Nicholas-Denys deposit, Canada: a deformed pyrrhotite-rich SEDEX deposit.

**Cheng Yanbo:** Preliminary study on the Geochronology of the host rocks of the Supergiant Gejiu Tin Deposit, SW China.

**Kimberly A. Casey:** Proposed methodology for detection of geochemical species on glaciers.

On behalf of SGA, we wish to congratulate once more to all awardees!

## The SGA website

Georges Beaudoin, Chief Editor SGA website

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<http://www.e-sga.org>

SGA SOCIETY FOR GEOLOGY APPLIED TO MINERAL DEPOSITS

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>>> page 1 The 10th Biennial SGA Meeting, Townsville, Australia, 17-20 August 2009: Smart Science for Exploration and Mining

the financial outcome for SGA. There were 482 participants and whereas the largest group of these (227) predictably came from within Australia, the majority formed an international contingent that came from 32 other countries. The other „top ten“ represented countries were China (30), USA (22), Canada (19), Spain (10), Germany (9), Sweden (9), New Zealand (8), Korea (7), Brazil (7) and the United Kingdom (7). The traditional SGA emphasis on participants contributing directly to the technical program was clearly an important factor in encouraging attendance. Almost 400 initial abstract submissions were received of which 333 were eventually incorporated into the Proceedings after the review process and their presenting authors had registered for the meeting. Reviews were managed by

an international program committee of 50 people. The meeting commenced with the SGA plenary session on the general theme of „Giant Ore Deposits“ and incorporating the Presidential Address by Professor David Groves entitled „Predictive Versus Forensic Mineral Deposits Geology: Viewing Giant Deposits at Appropriate Scale“. The main program included 21 SGA theme sessions along with an additional plenary session and a special session on new mineral deposit discoveries that were presented under the auspices of SEG. The SEG plenary session incorporated an address by SEG President John Thompson that examined the outlook for the mining industry for the next five years. In participation terms, the outstanding technical session with 39 contributions was the thematic session on sedimentary- and volcanic-hosted Cu, Cu-Zn and Pb-Zn deposits that was undertaken in collaboration with ICCP Project 502 and convened by Rod Allen, Jan Peter and Stuart Bull. The

short course and field trips associated with the meeting attracted 84 and 65 participants respectively.

In the field of economic geology, high quality students are our most valuable resource and SGA prides itself in the substantial investment it makes to facilitate student participation in its biennial meetings. To highlight the contribution made to our science by students, following the plenary sessions on the first day of the conference, the SGA poster sessions kicked off with a special session dedicated solely to student contributors. The student poster session offered a refreshment-enhanced venue for students to show off their work and meet mentors in their field. The poster session was immediately followed by a student-industry meet and greet evening event, which gave students and potential employers further time to discuss research and job opportunities alike, while enjoying the cool ocean breeze. Sixty three students



Figure 1: Conference coconvenor and EGRU Director Nick Oliver presents a conference gift to SGA President David Groves following the delivery of the Presidential Address (Photo I. Knesl, Czech Geological Survey).





Figure 2: Tony Crawford from the University of Tasmania delivering his keynote address on the famous Broken Hill Pb-Zn-Ag deposit (New South Wales) in the very well-subscribed conference theme session on sedimentary- and volcanic-hosted Cu, Cu-Zn and Pb-Zn deposits (Photo I. Knesl, Czech Geological Survey).

from 18 countries were in attendance at this year's meeting. They contributed nearly as many presentations in both oral and poster format, with posters being the slightly more popular medium. The quality of student contributions was outstanding this year, and the awards committee (Anna Vymazalova, Jorge Relvas, and Bernd Lehmann) realized that the challenge to pick a single winner for the "Best student poster" and "Best student oral presentation" would be impossible. In the end, the committee compromised and split each award among three winners. The awards included a certificate from the SGA as well as a cash prize of \$350 AUD each. Awards for best poster presentation went to Kimberly Casey (Norway), Yanbo Cheng (China) and Michelle Deakin (Canada). Awards for best oral presentation went to Maarten Haest (Belgium), Kathryn Kitney (Canada) and Irina Tretjakova (Russia). Many thanks are due to the student awards committee who helped make the student program a success.

The Townsville meeting incorporated several innovations and departures from previously-established practises. These

mostly reflected the general trend towards the application of digital technologies and growing preference for electronic document handling. Meeting registrations and abstract submissions were both managed using web-based systems that afforded major efficiencies in workload for the conference managers and volunteer program committee alike. This also facilitated transparency and co-operation in the process of program development. The abstract page format was changed to A4 meaning that individual abstracts could be reduced to three pages from the previous four without any reduction of content. All registrants received digital copies of the Proceedings but printed versions were only available by advance order thus providing an option to reduce registration costs and avoid the need to consider the weight of these books in airline baggage. Copies of the printed Proceedings will not be stored for future sale but the abstracts will be available for purchase as e-documents from the SGA web-site. Another change was the combination of the SGA general assembly and awards ceremony and the allocation of these to their

own session slot on the third day of the meeting. This was done at the request of SGA Council in an attempt to increase the number of meeting participants who would be engaged with the general business of the Society by attending. In the event, there were certainly many more there than had characterized general assemblies scheduled at lunch times in past meetings. Those attended were rewarded with what was surely one of the most extraordinary and moving experiences ever to be had in an international conference arena as Shunso Ishihara, in his acceptance speech as the awardee of SGA-Newmont Gold Medal, recounted his recollection of, how as a child aged 11, he had survived the Hiroshima atomic bomb attack. A full account of the awards presented at the 2009 SGA meeting can be found in a separate article by the SGA Secretary, Jan Pasava. Despite tough economic times the meeting was able to attract significant corporate sponsorship which ensured a positive financial outcome for SGA, a situation that was in no small part due to the efforts of SGA Treasurer Dave Leach who worked hard to help keep the budget

on track and initiate the last ditch efforts to maximize the corporate sponsorship. As in the past sponsorship was divided between general conference sponsors and those who elected to specifically support the student program. The general sponsors included Anglo American, AngloGold Ashanti, Barrick, C&R Consulting, CSIRO, GEMOC, Gnomex Exploration Services, Goldfields, Newmont, Terrasearch and Xstrata Copper. Student support came from The Geological Society of Australia-Specialist Group in Economic Geology, Anglo Gold Ashanti,

Paladin Energy, Ivanhoe Mines, Cameco, Xstrata Cu, EGRU, and the SGA. With the generous support of these groups, we were able to partially fund travel and accommodation of ~30 students from all over the world. The money was well spent on some bright young minds. Special mention should also be made of CODES (University of Tasmania) and CET (University of Western Australia) that both made major contributions to the meeting, particularly in respect of facilitating the participation of large numbers of their staff and students in

the technical program.

Finally, thanks must go to most important contributors to any conference, namely the registrants who gave their time and who mostly travelled great distances to attend in this particular case. SGA and the conference convenors hope that everyone found the effort of attendance worthwhile and enjoyed their visit to tropical North Queensland. We look forward to seeing you all again at the 11th Biennial Meeting in Antofagasta, Chile, 27-30 September 2011.



Figure 3: Participants in the 6-day long post conference field trip "Breccias, fluids, and IOCG mineralization in the Mt Isa and Cloncurry region North-west Queensland" (Photo Paul Givney, JCU).

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# SGA Student/Young Scientist Regional Networks

Anna Vymazalová <anna.vymazalova@geology.cz>, Jorge Relvas <jrelvas@fc.ul.pt>, Filipa Marques <piroxena@gmail.com>

SGA encourages all SGA student members (and SGA young scientists) to develop a new „SGA Student/Young Scientist Regional Networks“ that is unique.

The network should link existing chapters and individuals where there is little potential to create a Chapter. Regional network should have its “home town/university”.

The advantages and objectives:

- The main aim is to create an active networking among active student groups with the help of SGA
- individual Chapters will not be isolated in their region
- there will be more opportunities to exchange information and experience in the field of economic geology
- networking will encourage the development of field trips, short courses, regional student meetings, conferences and seminars
- networking will help to interchange of ideas, knowledge and research interests
- networking will increase opportunities for students to establish research collaboration, including scholarship exchange and advancement of careers
- networking will enhance opportunities to visit areas of metallogenic interest - where a particular university has good local knowledge and contacts
- field trip planning and teaching can be undertaken jointly
- networking allows individuals in universities without Chapters to be part of and benefit from other members of the network.

SGA Student and Young Scientist Chapter is open to students and young scientists from the field of economic geology and mineral deposits.

(The minimum is 5 student members; all have to be SGA members; the president, treasurer and secretary should be students, young scientists are encouraged to be active members and advisors of the Chapter).

•A proposal to establish a SGA Student and Young Scientist Chapter must be sent to the Executive Secretary of SGA, which will be forwarded to the Executive Council for approval.

•The Chapter may request seed money to provide for start-up expenses up to 500 Euro.

•The financial needs of the SGA Student and Young Scientist Chapter are expected to be generated from fund-raising activities of the Chapter. However, requests for financial support for special activities may be requested from SGA Council six months in advance of the special activity. The active participation of the Chapter members in the biennial meetings will be an advantage for determining the allocation of financial support from SGA.

•The Chapter members must create their own website linked to SGA website.

•The Chapter members must prepare „an article“ for SGA News at least once a year regarding their activities.

•The SGA Chapters will be promoted at the SGA Biennial Meetings through special sessions, student activities and social functions. Students of the SGA Student and Young Scientist

Chapter are expected to assist with the SGA Exhibits and encouraging SGA student memberships.

A SGA Network is in the process of being created using the Facebook social network. It will be an important step in the establishment of an (inter)active party of young people that share similar interests. The SGA Network will be managed by Filipa Marques and will work in close connection with the SGA webpage manager (Georges Beaudoin) sharing contents, and information regarding news and upcoming or past events. The SGA Network will post on its Facebook domain, basic information regarding the SGA, student networks and related student chapters. It will also post contact information including a link to the official SGA webpage. Recent news, related to the subject of geology applied to mineral deposits will be made available to all group members. Events (e.g. short-courses, seminars and field trips) as well as discussion boards are valuable instruments to promote geological initiatives. They should be focal points in the SGA Network and ultimately encourage and promote international cooperation, exchange of experiences and ideas, and establishment of networks involving active students and young scientists eager to learn and share. All SGA members all welcome to participate in this initiative. For more information please contact SGAnetwork@e-sga.org.



uOttawa **MERC**

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February 13-20, 2010, Ottawa

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- ☐ **Environmental Mineralogy** Feb. 17 & 18 (Wed-Thur)
- ☐ **Hydrogeology and Hydrogeochemistry in Mining and Mineral Exploration** Feb. 19 & 20 (Fri-Sat)

**Robert Seal (USGS), Geoff Plumlee (USGS), Mike Nahri (INAC), Gilles Tremblay (NRCAN), John Kwong (NRCAN), Heather Jamieson (Queen's), Dogan Paktunc (CANMET), David Blowes (Waterloo), Michael Parsons (NRCAN)**

**Fee: \$400 per session for professionals (\$500 after December 15)  
\$40 per session for students (late fee \$60 after December 15)  
Includes lunches, reception, and course notes. Credits applicable to graduate programs/professional development where permitted.  
Registration begins October 15, 2009. Contact [icsr@uottawa.ca](mailto:icsr@uottawa.ca)**



**SGA Student and Young Scientist Regional Network Group****Application form**

**Identification of the Regional Network Group (proposed name):**

**Institutional affiliations (one or more University(ies), Research institute(s), Geological survey(s) involved)**

**Contact address:**

.....

**President of the Regional Network Group (contact person):**

**Secretary:**

**Treasurer:**

**Webmaster:**

**List of other members (minimum 3):**

**Academic advisors (minimum 1 per institution involved; all SGA members):**

.....

**The main aim of the Regional network group:**

**Activities planned for the following year:**  
(e.g., field trips, meetings, seminars, other activities)

**Cooperation with other Groups:**

**Planned "membership drive":**

.....

**Request for financial contribution:**

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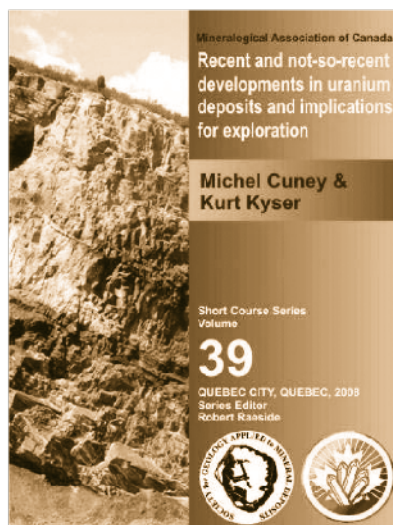
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**Date**

**Signature of the President**

**Signature(s) of the Scientific Advisor(s)**

# Mineralogical Association of Canada



## Short Course Volume 39

### Recent and not-so-recent developments in uranium deposits and implications for exploration

By Michel Cuney and Kurt Kyser

Exploration for uranium is currently at a level that surpasses the last exploration boom some 30 years ago. Despite the lack of interest in uranium as a commodity during the past 30 years and the resulting loss of expertise and research, considerable progress has been made in research because of new ideas and technologies. These have allowed researchers to quantify models for all types of deposits. The purpose of this short course volume is to highlight the data and research that have developed over the last 30 years as well as results from new research that can be integrated into exploration for uranium. The short course volume considers models for different types of uranium deposits and the mechanisms that control their genesis, relating source, transport, deposition, and preservation, and how these can be used to refine strategies for uranium exploration.

ISBN 978-0-921294-48-1, SC 39, 272 pages, DVD-ROM, 2009

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### First Circular

# 11<sup>th</sup> International Platinum Symposium

## Sudbury, Ontario, Canada

### 21-24 June 2010



Ore deposit geologists, mineralogists, geochemists, and metallurgists are invited to attend the 11<sup>th</sup> **International Platinum Symposium (IPS)** to be held in Sudbury, Ontario, Canada between 21 and 24 June 2010, immediately after the 2010 *Goldschmidt Conference* in Knoxville, Tennessee, USA.

Sudbury is one of the world's premier Ni-Cu mining districts, a significant PGE producer, and one of the oldest, largest, and best-exposed meteorite impact sites on Earth. As the world's largest integrated mining technology cluster, Sudbury has a vibrant mineral exploration and mining community that includes several major producers, numerous junior exploration companies, dozens of mining supply and service companies, three post-secondary educational institutions and associated exploration and mining centres, and several Ontario government mining and mineral ministry offices, making Sudbury one of the best places in the world to host a multidisciplinary meeting of this type. The City of Greater Sudbury, the largest city in northeastern Ontario, lies amidst glacially-shaped ridges, green boreal forests, and contains over 200 lakes. The success of more than 30 continuous years of environmental reclamation efforts has led to numerous national and international awards, including a Government of Canada *Environmental Achievement Award*, a United States *Chevron Conservation Award*, and a United Nations *Local Government Honours Award*.

### Meeting Themes

The theme of the meeting is **PGE in the 21<sup>st</sup> Century: Innovations in Understanding their Origin and Applications to Mineral Exploration and Beneficiation**. The mining industry is presently in a downturn, so this is a very appropriate time for us to examine ways to make exploration efforts more efficient, to identify problems that need to be addressed, and to ensure that we pass our expertise along to the new generation.

There will be technical sessions on the **geochemistry of highly siderophile elements**; the **geology and genesis of PGE and Ni-Cu-(PGE) deposits**, focusing on tectonomagmatic settings, mineralization in calc-alkaline systems, chromite-PGE associations, physical transport of sulfides and scales of sulfide saturation, hydrothermal transport processes, and the genesis of high PGE/S mineralization; and the **mineralogy, metallurgy, and beneficiation** of PGE ores, focusing on disseminated PGE mineralization and other areas to be decided.

There will be presentations by greenfields and brownfields exploration geologists, by industry and academic research geologists, and by our brightest young students, who will be leading us in our research and exploration efforts during the next cycle.

### Hosts and Sponsors

The meeting is being hosted by the *Department of Earth Sciences* and *Mineral Exploration Research Centre* at Laurentian University and the *Ontario Geological Survey*, and is being sponsored by the *Mineral Deposits Division* of the *Geological Association of Canada*, the *Mineralogical Association of Canada*, the *Society for Geology Applied to Mineral Deposits*, and the *Society of Economic Geologists*.

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# Metallic and non-traditional resources of the Erzgebirge Mts., central Europe

## Field trip report of SGA Student Chapter Prague

Michal Čurda, David Dolejš and Kateřina Schlögllová

*Charles University in Prague, Faculty of Science, Institut of Petrology & Structural Geology  
schloglo@natur.cuni.cz*

The SGA student chapter Prague has had another busy fall season. The chapter continues to flourish and has dramatically expanded to 35 student members and 2 faculty advisors. Majority of the student body is junior and senior undergraduates who are preparing themselves for career options in resource geology, geochemistry or mineralogy. At the beginning of the winter semester the chapter has organized a 3-day field trip to the Erzgebirge Mts., a classical metallogenic province of central Europe, to learn about some of the traditional me-

tallic as well as non-metallic resources that are largely result of protracted magmatic and hydrothermal activity initiated during the Variscan orogeny. The field trip was organized by Jakub Trubač and Lukáš Vondrovic, and lead by Petr Rojčík and David Dolejš. It provided an all encompassing perspective about geological evolution, mining and utility of mineral resources both in the Czech and German part of the region.

The first two stops were devoted to alkaline volcanic rocks, extracted since 1785 for use as color pigments for local

glass industry, and subsequently utilized as construction materials. The ability to color glass results from unusually high magnetite concentrations in olivine nephelinite that has been reduced during glass production to produce the green coloration. These volcanic occurrences belong to an aborted continental rift, extending from southwestern Germany to northern Czech Republic.

The Czech Erzgebirge Mts. are mostly known for its widespread occurrences of tin mineralization that has been explored and mined for more than four centuries. The



SGA - Student Chapter Prague members are visiting geological locality - Rotava National Parc with Basaltic Organ.

primary cassiterite mineralization belongs to the fracture-related greisen type and is located within or near the highly evolved, topaz-bearing granite bodies. The greisen bodies extend vertically over more than 800 meters, as verified by underground workings and drilling, and are locally overprinted by arsenic mineralization or hematitization. We have visited several occurrences at Přebuz and Horní Blatná including old mining facilities, exploration trenches and examined ore and gangue assemblages on mine dumps. Local occurrences are remarkable for their cassiterite crystals, associated with arsenic and uranium-bearing phases as well as pegmatite assemblages in highly evolved granitic rocks.

The elevated tin concentrations are related to its enrichment in late Variscan granitic rocks by magmatic fractionation. We had the opportunity to study individual members of this intrusive sequence in the Podleší quarry. The quarry, originally used for building and construction stone, provides a unique exposure of the lithium- and fluorine-rich stock granite intersected by late-stage, extremely evolved granitic dykes with substantial enrichment in large ion lithophile elements as well as well-developed

unidirectional solidification textures. These are, most likely, the host rocks for the tin now found in cassiterite mineralization of the greisen type. We have explored a similar ore deposit style albeit in a different structural setting at Geyer and Altenberg. Here, the mineralization is situated in the apical portions of granitic cupolas, thus underneath the paleorooft of the hidden granitic pluton. Such cassiterite-quartz stockworks were mined since the 16th century but the collapse of underground workings has often led to the creation of surficial pits (Pingen) where the geological relationships can be examined in close detail.

The Erzgebirge Mts. host, in their metamorphic envelope, several important non-traditional resources. We have visited underground production of dolomite at Lengefeld. This metacarbonate body is located in Paleozoic sedimentary sequences and was excavated for lime production since 1528. The original open pit mining has been replaced by underground facility that is still in operation. The lime production facility has been conserved as touristic attraction whereas the dolomite finds its use as dimension and decoration stone.

During our trip through the Saxonian

Erzgebirge we have made an additional stop at the quarry of Zöblitz which provides an interesting insight into geodynamic history of the Variscan orogen in this area. The quarry is hosted by garnet peridotites (serpentinites) and pyroxenites that represent fragments of subcontinental mantle subducted to an approximate depth of 130 km and temperature of 1000 °C, and subsequently exhumed during Variscan continental collision. Although the quarry mainly produces road stones, similar occurrences in the Czech Republic have found its use as abrasives or commercial jewelry.

The trip has provided us with an interesting and all-rounded perspective on geology and mineral resources of the Erzgebirge province of central Europe. In the end, we would like to acknowledge the efforts of our guides (Petr Rojčík for his professional commentations during the first day of trip, David Dolejš for his preparations and interesting geological comments and informations and also to other members of nice early autumn geological trip)... including local employees at mining facilities and attractions that made our trip possible and enjoyable.



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## &gt;&gt;&gt; FORTHCOMING EVENTS &lt;&lt;&lt;

\* marks a new entry

## 2010

**\*February 4-5**

PIM '10 — Processing of Industrial Minerals '10, Istanbul, Turkey. weblink: <http://www.min-eng.com/pim10/index.html>

**February 4-7**

6th INTERNATIONAL DYKE CONFERENCE (IDC) - Varanasi, India. Contact: Prof. Rajesh K. Srivastava; E-mail [idcindia2010@yahoo.co.in](mailto:idcindia2010@yahoo.co.in), <http://www.igpetbhu.com/idc6/index.htm>

**\*March 1-2**

Global Mining Technology, Dubai, United Arab Emirates. weblink: <http://www.fleminggulf.com/conferences/energy/Mining?partner=confservice>

**\*March 22-26**

AMC 2010 — Asia Mining Congress 2010, Singapore, Singapore. weblink: <http://www.terrapinn.com/2010/asiamining/index.stm>

GEOLOGICAL ASSOCIATION OF CANADA AND THE MINERALOGICAL ASSOCIATION OF CANADA (Joint Meeting), (GAC-MAC): GeoCanada 2010, Calgary, Canada - Contact address: website: <http://www.halifax2005.ca/>

**\*April 6-9**

IAGOD Adelaide 2010 — Giant Ore Deposits Down-Under. 13th Quadrennial Symposium of the International Association on the Genesis of Ore Deposits (IAGOD), Adelaide Convention Centre, South Australia, Australia. Website: <http://www.alloccasionsgroup.com/IAGOD2010>

**\*May 3-7**

ioGlobal — 2nd International Applied Geochemistry Workshop, Vancouver, Canada. weblink: <http://www.ioglobal.net/Downloads/Brochures.aspx>

**June 1-30**

EURISPET: High-temperature Metamorphism and Crustal Melting, Padova, Italy. weblink: [http://www.eurispet.eu/index.php?option=com\\_content&task=view&id=16&Itemid=31](http://www.eurispet.eu/index.php?option=com_content&task=view&id=16&Itemid=31)

**\*June 2-4**

Water in Mining 2010 - II International Congress on Water Management in the Mining Industry, Antofagasta, Chile. Organizer: Gecamin Ltd. Contact: Ms Olga Cherepanova, Paseo Bulnes 197, 6th floor Santiago Chile; phone: (+ (56-2) 652 1519); weblink: <http://www.wim2010.com>

**\*June 13-18**

GOLDSCHMIDT 2010, Knoxville, Tennessee, United States. weblink: <http://www.goldschmidt2010.org/>

see, United States. weblink: <http://www.goldschmidt2010.org/>

**\*June 15-16**

Precious Metals '10 — 3rd International Symposium on Precious Metals, Falmouth, United Kingdom. weblink: <http://www.min-eng.com/preciousmetals10/index.html>

**\*June 17-18**

Nickel Processing '10 — 2nd International Symposium on Processing of Nickel Ores & Concentrates, Falmouth, United Kingdom. weblink: <http://www.min-eng.com/nickelprocessing10/index.html>

**\*June 20-25**

SGEM 2010 — 10th International Multidisciplinary Scientific Geo-Conference and Expo: Surveying Geology & mining Ecology Management, Albena resort, Bulgaria. weblink: <http://www.sgem.org>

**June 21-24**

11th INTERNATIONAL PLATINUM SYMPOSIUM, Sudbury (Canada), Website: <http://11ips.laurentian.ca>. Contact: Prof. Dr. Michael Leshner, [11ips@laurentian.ca](mailto:11ips@laurentian.ca)

**\*June 27-July 8**

IUGG XXV General Assembly, Earth on the Edge: Science for a Sustainable Planet, Melbourne, Australia. weblink: <http://www.iugg2011.com>

**\*July 7-11**

EMU School: High-resolution electron microscopy of minerals, Nancy, France. weblink: <http://www.lcm3b.uhp-nancy.fr/emu10/>

**\*July 10-18**

ZEOLITE 2010 — 8th International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites, Sofia, Bulgaria. weblink: <http://www.zeolite2010.org/>

**\*August 8-13**

2010 AGU Joint Assembly, Iguassu Falls, Brazil. Contact: Meeting Department 2000 Florida Avenue, NW Washington D.C. U.S.A. 20009; phone: (+1-202-777-7329); email: [ja-help@agu.org](mailto:ja-help@agu.org)

**\*August 14-18**

Uranium 2010 Conference, Saskatchewan, Canada. weblink: [http://Ed\\_Lam.com](http://Ed_Lam.com)

**August 21-27**

20th GENERAL MEETING OF THE INTERNATIONAL MINERALOGICAL ASSOCIATION. Budapest, Hungary. weblinks: <http://www.ima2010.hu/>, [http://www.univie.ac.at/Mineralogie/IMA\\_2010/](http://www.univie.ac.at/Mineralogie/IMA_2010/)

**\*September 6-10**

XXV International Mineral Processing Congress 2010, Brisbane, Australia. weblink: <http://www.impc2010.org/>

**\*October 2-5**

SEG 2010 — Society of Economic Geologists Conference, Keystone, Colorado, United States. weblink: <http://www.seg2010.org/>

**October 31-November 3**

GEOLOGICAL SOCIETY OF AMERICA: 122 ANNUAL MEETING, Denver, Colorado, USA - Contact address: GSA Meetings Department, P.O. Box 9140, Boulder, CO 80301-9140, USA; phone: +1 303 447 2020; fax: +1 303 447 0648; e-mail: [meetings@geosociety.org](mailto:meetings@geosociety.org); website: <http://www.geosociety.org/meetings/index.htm>

**\*November 8-9**

Zinc Processing '10 — 2nd International Symposium on the Processing of Zinc Ores and Concentrates, Cape Town, South Africa. weblink: <http://www.min-eng.com/zincprocessing10/index.html>

**\*November 10-12**

Process Mineralogy '10 — 1st International Symposium on Process Mineralogy, Cape Town, South Africa. weblink: <http://www.min-eng.com/processmineralogy10/index.html>

**\*December 13-17**

American Geophysical Union — 2010 Fall Meeting, San Francisco, California, United States. Contact: AGU Meetings Department 2000 Florida Avenue, NW Washington DC USA 20009; phone: (202-777-7333); email: [meetinginfo@agu.org](mailto:meetinginfo@agu.org); weblink: <http://www.agu.org/>

## 2011

**\*May 9-10**

SRCR '11 — Sustainability through Resource Conservation and Recycling '11, Falmouth, United Kingdom. weblink: <http://www.min-eng.com/srcr11/>

**\*May 11-12**

CCMI '11 — Climate Change and the Minerals Industry '11, Falmouth, United Kingdom. weblink: <http://www.min-eng.com/climate-change11/index.html>

**\*June 27-July 8**

IUGG 2011 — XXV IUGG General Assembly: Earth on the Edge: Science for a Sustainable Planet, Melbourne, Australia. Organizer: International Union of Geodesy and Geophysics (IUGG). weblink: <http://www.iugg2011.com/>



# SGA at the PROEXPLO and the Bolivian Geological Congress

Eugenio Ferrari, Vice-President South America Region

*General Manager, Mineral Exploration, Latin America Votorantim Metais Ltda., Av. Paz Soldán 170, Office 501, San Isidro, Lima 27, Perú*

The Society for Geology Applied to Mineral Deposits was present at two important meetings in South America, the PROEXPLO conference in Lima and the Bolivian Geological Congress in Potosí.

The VI International Conference PROEXPLO 2009, organized by the Institute of Mining Engineers of Peru, was held in Lima from May 19 to 22 under the motto "Discovering Human, Mineral and Hydro-

geological Resources".

The meeting was attended by approximately 1,200 participants and included technical presentations and major forums on Hydric Resources: Lessons Learned in the



*Eugenio Ferrari (Regional SGA Vice-President, right) and Renato Chero (left) at the PROEXPLO SGA booth in Lima.*

>>> page 20 **Forthcoming events**

## **\*July 20-27**

INQUA — XXVIII Congress of the International Union for Quaternary Research, Bern, Switzerland. weblink: <http://www.inqua.tcd.ie/>

## **\*September 27-30**

11th SGA Biennial Meeting, Antofagasta, Chile. Contact: Av. Angamos 0610, Antofagasta, Chile, Tel. +56 (55) 355967, Fax +56 (55) 355977; weblinks: [www.e-sga.org](http://www.e-sga.org), [www.ucn.cl](http://www.ucn.cl); e-mail: [edcampos@ucn.cl](mailto:edcampos@ucn.cl)

## **October 9-12**

GEOLOGICAL SOCIETY OF AMERICA:

123rd Annual Meeting, Minneapolis, Minnesota, USA. GSA Meetings Department, P.O. Box 9140, Boulder, CO 80301-9140, USA. Phone +1 303 447 2020, Fax: +1 303 447 0648, E-mail [meetings@geosociety.org](mailto:meetings@geosociety.org), <http://www.geosociety.org/meetings/index.htm>

## **\*December 12-16**

American Geophysical Union — 2011 Fall Meeting, San Francisco, California, United States. contact: AGU Meetings Department 2000 Florida Avenue, NW Washington DC USA 20009; phone: (202-777-7333); email: [meetinginfo@agu.org](mailto:meetinginfo@agu.org); weblink: <http://www.agu.org/>

## **2012**

## **\*August 5-15**

34th International Geological Congress, Brisbane, Queensland, Australia. Contact: phone: (+61 62499556); weblink: <http://www.ga.gov.au/igc2012>

## **\*December 14-18**

American Geophysical Union — 2012 Fall Meeting, San Francisco, California, United States. Contact: AGU Meetings Department 2000 Florida Avenue, NW Washington DC USA 20009; phone: (202-777-7333); email: [meetinginfo@agu.org](mailto:meetinginfo@agu.org); weblink: <http://www.agu.org/>

Hydric Resources Management Path (17 papers), Entrepreneurial Meeting Forum: Mining Exploration Leaders (11 papers) and Uranium in Peru: Perspective of Nuclear Energy in Peru (13 papers).

The conference also included invited lectures, several pre and post-meeting short courses, workshops and field visits. Lectures were given by Dr. Bernd Lehmann from Clausthal University, Germany (Andean Metallogeny, Bolivian Case), Dr. Richard Sil-litoe (Andean Metallogeny, Ecuador and Colombia), Dr. Jeffrey Hedenquist (Opportunities in the face of adversity), Dr. María E. Cisternas (Mining Education), Ana Maria Vidal (Shared Social Responsibility), Joaquin Pinto (Sustainable development, Orcopampa case), Dr. Jeffrey Watkins (Diamonds in South America) and Dr. Francisco Camus (Cu Porphyry, Peru – Chile)

Short courses and workshops included the course Copper, Gold and Silver Hydrometallurgy where Dr. David B. Dresinger that provided an overview of current research and developments in hydrometallurgical treatment of copper concentrates and the course Geology and Geochemistry of Placer Deposits lead by Dr. John Youngson and Dr. Donna Falconer. Dr. Peter Laznicka held the workshop Future Metal Supplies and Giant Deposits with Applications to Latin-American. Dr. William X. Chavez (New Mexico School of Mines) and Dr. Robert Seal (United States Geological) held the workshop environmental geology and geochemistry of ore deposits. Field trips included visits to the Toromocho Project, one of the most important copper, molybdenum and silver porphyry located in central Peru, the Uchucchacua silver-lead deposit, and to the Cerro Lindo massive sulphide (VMS) mine.

The SGA also participated at the XVIII Bolivian Geological

Congress held in Potosi from May 12th to May 16th, 2009. The meeting, that brought together delegates from industry, universities, and local government organizations, comprised field trips to the San Bartolomé Silver project, the Uyuni Salar and to the Cretaceous Miraflores synclinal. Five lectures were presented at the Gas Symposia and nine central conferences, mainly in economic geology, completed the program. The English edition of the book Metalliferous ore deposits of Bolivia was presented at the congress by its author and SGA member, Dr. Osvaldo Arce.

The SGA booths were well frequented throughout both meetings giving us a great opportunity to continuous with the diffusion campaign in progress since the XIII Latin American Geological Congress and the XIV Peruvian Geological Congress last year. Our active participation resulted in 2 student's applications and 10 full member applications in Lima. In Potosi several delegates have indicated their interest to joint the society and our team is currently working in completing the application processes.

We are grateful to the organizing committees of both meetings to support the SGA promoting activities providing very well located stands, to Dr. Cesar Vidal (PROEXPLO organizing committee president), to Dr. Osvaldo Arce for institutional support in Bolivia, to Dr. Bernd Lehmann to organize the Mineralium Deposita issues submittals to Lima, and to the members and volunteers that supported our booth during the conference, especially to Renato Chero who recently joined our organization and did a very good job in Lima, and finally to Auri Morro (SGA member and very energetic collaborator) who supported up the booth in Bolivia and presented the SGA to the audience during the second day session in Potosi.

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# ANNUAL WORKSHOP ORE DEPOSITS MODELS AND EXPLORATION China University of Geosciences (CUG), Wuhan May 24-29, 2010



## Lecture and Laboratory Instructors

Zhaoshan Chang, CODES, University of Tasmania, Australia – skarns

Huayong Chen, CODES, University of Tasmania, Australia – Iron Oxide Copper Gold

David Cooke, CODES, University of Tasmania, Australia – porphyry, epithermal

Jens Gutzmer, Freiberg University, Germany – iron and manganese

Craig Hart, MDRU, University of British Columbia, Canada – gold

Dave Leach, US Geological Survey, Denver, USA – Pb & Zn in sediments

Chusi Li, University of Indiana, Cincinnati, USA – magmatic Ni, Cr, Pt

Steven Scott, University of Toronto, Toronto, Canada – Volcanic-hosted massive sulfides

Noel White, Consultant, Brisbane, Australia – ore models in exploration

Kaihui Yang, President of Asia Now Resources, Toronto, Canada – exploration in China

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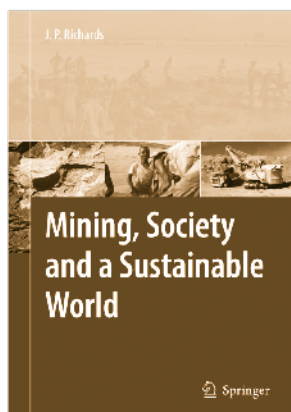
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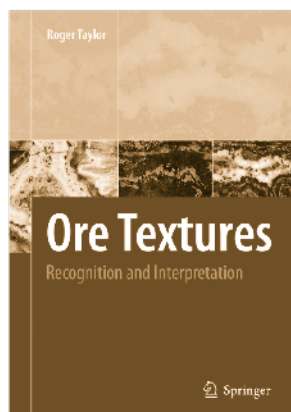
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Understanding ore textures is fundamental to understanding the genesis of an ore deposit, which in turn allows exploration and mining geologists to build their conceptual understanding of the deposits they encounter and leads to more successful exploration and exploitation. This book is specifically designed for the field geologist working without the benefits of sophisticated chemical, mineralogical or petrological support. It covers the basic building blocks of textural recognition beginning with infill (direct precipitation from hydrothermal fluids into 'cavities'), alteration (the results of hydrothermal fluid reactions with wall rocks) and overprinting (the normal complexity caused by successive introduction of hydrothermal fluids usually accompanied or preceded by renewed fracturing) and ends with a detailed examination of textures associated with tectonic and intrusive breccias.... *more on* <http://springer.com/978-3-642-01782-7>

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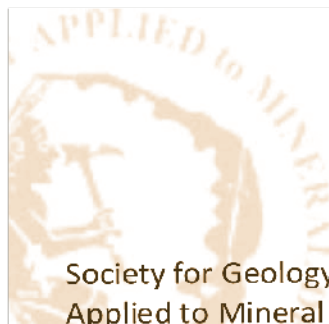
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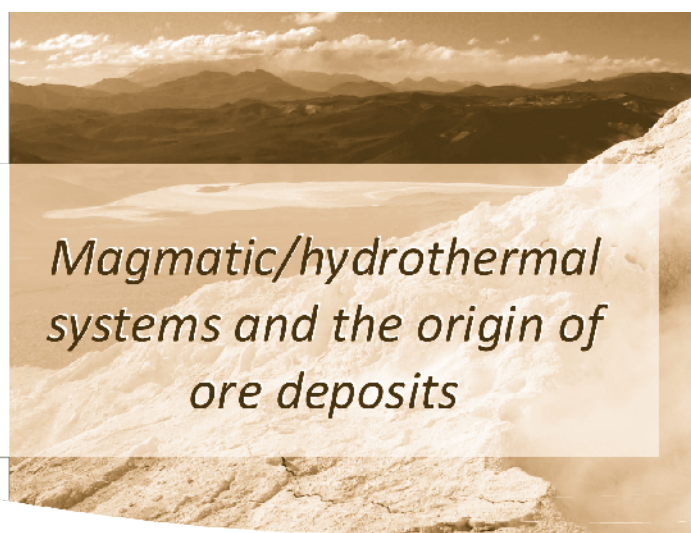
# 11<sup>th</sup> SGA Biennial Meeting

Antofagasta, Chile

27-30<sup>th</sup> September 2011



Society for Geology  
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*Magmatic/hydrothermal  
systems and the origin of  
ore deposits*

Hosted by: Universidad Católica del Norte



11<sup>th</sup> SGA Biennial Meeting

**NORTHERN CHILE** hosts one of the world's largest concentrations of giant deposits. Porphyry copper, magnetite/apatite and IOCG systems, manto-like Cu/Ag deposit, epithermal systems and large supergene enrichments coexist in the same area with large salares, geyser field and one of the most active volcanic belts, all less than 300 km from Antofagasta. Also, it is an excellent gateway field trips to Argentina, Bolivia and southern Peru. A key aim of the meeting is to discuss the origin, significance and economic importance of these deposits through an ample offer of field trips.

Those interested in offering field trips, short courses or any help and idea to make this conference memorable, please feel free to contact the organizing committee.



Antofagasta 2011

**ANTOFAGASTA**, located in the Atacama desert with a population of over 300.000 inhabitants, is the largest city north of Santiago de Chile. Historically, it is the entrance front door to the richest mining region of South America. Its location as port city and good climate throughout the year make of Antofagasta an excellent city for holding the **11<sup>th</sup> SGA Biennial Meeting**.



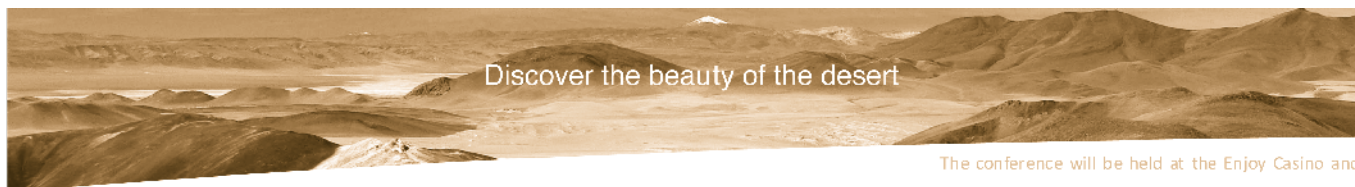
First circular will be placed soon in the **SGA web page**.

For further information contact the Organizing Committee at: [edcampos@ucn.cl](mailto:edcampos@ucn.cl)



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Discover the beauty of the desert

#### MAJOR ORE DEPOSITS to be visited

|                        |                              |
|------------------------|------------------------------|
| El Teniente (PC)       | Escondida (PC)               |
| Río Blanco (PC)        | Mantos Blancos (Manto)       |
| El Soldado (Manto)     | Chuquibambilla District (PC) |
| Los Pelambres (PC)     | Michilla (Manto)             |
| Andacollo (PC)         | Zaldívar (PC)                |
| Candelaria (IOCG)      | El Peñon (Epithermal)        |
| La Colpa (Epithermal)  | El Tesoro (Exotic)           |
| Maricunga (Epithermal) | Salar de Atacama             |
| El Salvador (PC)       | El Tatio geothermal field    |
| Manto Verde (IOCG)     | El Lago                      |

There will be also field trips to ore deposits in southern Peru, Argentina and Bolivia



## PROGRAM

### SGA proposed sessions

- Tectonic and metallogeny of Pacific rim
- Hydrothermal processes and the genesis of hydrothermal ore deposits
- Mining and related environmental issues
- Surface processes and integrated exploration in covered terrains
- Estimating the global mineral endowment
- Industrial mineral deposits
- Open sessions



### Short Courses and Workshops

The meeting will offer a wide variety of short courses and workshops before and after the main conferences.

The conference will be held at the Enjoy Casino and Resort, about 500 m south of the Universidad Católica del Norte.



### Travelling to Antofagasta

Antofagasta is easily reached via Santiago de Chile and connecting flights with Europe, America and Australasia. Alternative means include buses from nearby major cities.

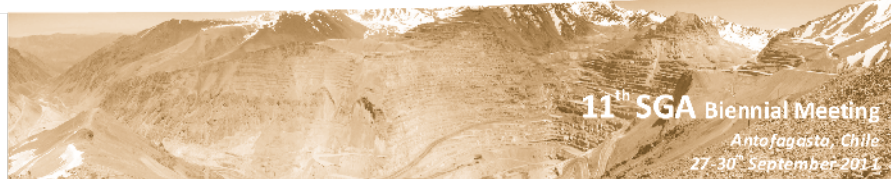
### Accommodation & restaurants

The city offers a wide variety of lodging from luxury first class hotels to student accommodation. Also it hosts a wide offer of catering including local and international restaurants and a vivid night life.

### Tourism

Antofagasta is the gateway to the Atacama desert and its fascinating attractions, including San Pedro de Atacama, El Tatio geysers, the salares, and several astonishing national parks, a large coastline and high peaks. Bolivia and Southern Peru and northern Argentina are within easy reach.

<http://www.welcomechile.com/antofagasta/>  
<http://www.municipalidadantofagasta.cl/>  
<http://www.turismo Chile.com/inicio.php>



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