Welcome to the IAGOD e-newsletter for 2006-2007!

This newsletter is being sent out in digital form. Hard copy will be sent, by request, to some of our national groups. 2006 and 2007 were both memorable years for the association- in 2006 particularly because of the 12th Quadrennial IAGOD Symposium in Moscow. A full report can be found in this newsletter. In the following pages are details of future IAGOD events. As always, we on IAGOD Council look forward to meeting many of our members during the coming year.

IAGOD Report for 2006

IAGOD held its 12th Quadrennial Symposium in Moscow, Russia (21-24 August 2006). The symposium, carried the title ‘Understanding the Genesis of Ore Deposits to meet the Demands of the 21st Century’, attracted about 350 participants, of which 170 came from countries outside Russia and CIS. The venue for the symposium was the “Russian Academy of State Service, under the auspices of the President of Russian Federation”. The symposium was organised by the Foundation “Science and Our Future”, with the local Local Organizing Committee consisting of Sergei Cherkasov (Executive Secretary), Valery Smolkin (Field Trips), Michael Tokarev (Representative of the European Association of Geoscientists and Engineers, AEGE) and Olga Koshek (Secretary). Supporting organisations included, among others, the International Association on the Genesis of Ore Deposits (IAGOD), the Society of Economic Geologists (SEG), the Department of Earth Sciences of the Russian Academy of Sciences, the Federal Agency for Mineral Resources of the Ministry of Natural Resources of the Russian Federation, Moscow State University and the Vernadsky State Geological Museum. A 9-member International Advisory Board and a ten-member Local Scientific Committee, the latter representing leading research institutes of the Ministry of Geology and the Russian Academy of Sciences and headed by Academician Dmitry Rundqvist, oversaw preparation of the scientific programme. The International Geoscience Programme (IUGS-UNESCO / IGCP), the Russian-French Metallogenic Laboratory (Vernadsky SGM RAS Moscow & BRGM Orleans), and the Centre for Russian and Central Eurasian Mineral Studies (CERCAMS, NHM London) contributed as scientific sponsors. BHP Billiton and JSC ”MMC "Norilsk Nickel””, and the informational sponsors, SRK Consulting, Advantix Ltd./MINEX initiative and Nordeco Eurasia supported the event, as did the Russian Academy of Sciences, the Russian Federal Agency “Rosnedra” and VSEGEI, St. Petersburg.

A series of field trips were offered before, and after the symposium. These trips were designed to show participants some of the most important ore districts in Russia, and most excursions were heavily booked, with some interested persons unable to find a place. The pre-symposium excursions offered were: ‘The Monchegorsk Ore District, Kola Peninsula’, ‘Ore deposits and occurrences in the North Ladoga Region, Southwest Karelia’, ‘Ore facies and lithogenesis of massive sulphide deposits of the Middle and North Urals’ and ‘Geology and ore deposits of the Noril’sk Ore District’. Post-symposium field trips were ‘Volcanic-hosted massive sulphide deposits of the South Urals’, The Onega ore district, Central and East Karelia’ and ‘Diamond placer deposits of the Krasnovishersk District, Perm Region’.

The Ukrainian Group of IAGOD organised a field workshop ‘Ukrainian Carpathians and Ukrainian Shield’, which was held in the week prior to the Moscow Quadrennial Symposium. The 8-day workshop gave participants the opportunity to visit key ore deposits in the Ukrainian Transcarpathians and the Ukrainian Shield.

Publications

The following publications resulted from the Quadrennial Symposium in Moscow:


Smolkin, V.F. (Ed.), 2006: Field Trip Guidebook, 12th Quadrennial IAGOD Symposium, 191 pp., “Science and Our Future” Foundation, Moscow, 2006 (GBP 40.-).

In the IAGOD Guidebook series:

Also related to the IAGOD-2006 Symposium and to coincide with the field workshop "Ukrainian Carpathians and Ukrainian Shield", a field guide was published as volume 15 within the IAGOD Guidebook Series and is available only in digital format.

Bobrov, O.B., Cook, N., Gurskyi, D.S., Malyuk, B.I. (Eds), 2006: Ukrainian Carpathians and Ukrainian Shield, 154 pp., Published as manuscript, Kyiv-Lviv: ZUKC, 2006 (CD-ROM only, GBP 50.-).

In the IAGOD Monograph series:

*Ore Geology Reviews* is the official journal of the association. IAGOD officers and members form the basis of a 24-member editorial board of the journal. The journal appears in two volumes annually. Volumes 28 and 29 were published in 2006 (see elsewhere in this newsletter).

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**Call for volunteers:**

IAGOD is your association – volunteers are always needed to become involved in society activities, national groups, working groups and commissions and to serve on IAGOD council.

Would you like to get involved? Please contact Nigel Cook, IAGOD SG (n.j.cook@nhm.uio.no)
The 12th Quadrennial IAGOD Symposium, Moscow, Russia and preceding ‘Ukraine’ fieldtrip

A student report

The 12th Quadrennial International Association on the Genesis of Ore (IAGOD) Symposium was held in Moscow/Russia from the 21st to 24th of August 2006. Approximately 400 participants attended the conference including ca. 20 students, which had the opportunity to give talks and show posters. I prepared a poster entitled: Preliminary Comparison of Alteration and Mineralization of two Shear Zone-hosted Gold Occurrences, Brunswick Subduction Complex, New Brunswick, Canada. The sessions were very informative and gave a good summary about general ideas, as well as starting points for more research and concepts to include in my thesis. For me and Jillian Martin as students it was a great opportunity to talk to world class industry scientists and academics, see excellent presentations, present our research and get objective feedback, and foster other potential research linkages for the future.

From Canada Dave Lentz and I attended the pre-conference field trip in the Ukrainian Shield and the Carpathian Mountains from Aug 11th to the 20th in the Ukraine. The 40 participants came from 13 countries, among them geologists from the State Geological Survey of the Ukraine (DGCU), the Ukrainian State Geological Research Institute (UkrSGRI), and the Ukrainian National Academy of Sciences. During the workshop we visited five different gold mines, looked at drill core, and the surrounding geology to understand the genesis of those deposits.

The chairmen of the trip Mykhailo Geychenko (DGCU), Alexander Bobrov (UkrSGRI), Nigel Cook (IAGOD and IGCP-486 project, NHM Oslo, Norway), and Reimar Seltmann (Centre for Russian and Central Eurasian Mineral Studies (CERCAMS) and IGCP-473 project, NHM London, UK) organized the field excursion. Sponsors of the field workshop were the DGCU, Ministry of environment safety of Ukraine, Geoscience Department of National Academy of Science of Ukraine, CERCAMS, Global Mineral Resource Assessment Program, and IAGOD.

The first five days were spent in the Carpathian Mountains, where we arrived late on the first day and already examined rocks of the Muzhievske and Saulyakske gold deposits. The Muzhievske and Beregevska gold deposits are located in Jurassic basement rocks covered with conglomerates, and breccias. The basement is characterized by limestone, argillites, jasper, sandstone, and schist with insets of basaltic lava and tuffs.

Day two was characterized by the discussion of the Rakhivski ore camp. The Saulyak gold deposit is hosted folded rocks of Late Proterozoic to Late Cretaceous volcanics, sediments, and metamorphic rock complexes with intrusions of different ages and composition.

The third day consisted of a tour in the underground mine of the Beregivsko-Begansky ore camp to the ore zone #8, which shows polymetallic character with galena and sphalerite, and associated pyrite, chalcopyrite with 1-1.5 g/t gold.

During the fourth day we visited the columnar basalts, which is described as a volcanic neck. Later that day we visited the Black Mountains, as part of a caldera structure. An ancient mercury mine was the destination later. The porphyry rocks are extremely altered and in contact with the intrusion is realgar and cinnabar. The Sokirnitza zeolite deposit is hosted in rhyolite and tuffs, forming as a result of salt diapirism, with salty fluids penetrating the volcanic ring structured rocks.
The Saulyak gold deposit was visited on day 5 and is located in marble of upper Proterozoic age. Higher grade amphibolite-epidote metamorphism was overprinted by retrograde greenschist facies assemblages. Ore can be seen in 2.5-10 m wide sulphide containing, lensoid veins grading 1.5 up to 12 g/t gold. The afternoon was spent underground at the 170 m level and examined the ore zones grading 0.5-30 g/t gold.

The last days we visited Zavallivkse graphite open pit, hosted in graphite-biotite and graphite-garnet-biotite gneiss. The average graphite content is 7% with a maximum of 15%. The three main products of this mine are graphite, garnet concentrate, and hard rock split. Later we looked at drill cores from five different gold deposits: Mayske, Klyntsivske, Balka, Shyroka, Sergiivske, and Balka Zolota gold deposits and after that a granulite quarry was examined with pyroxene crystals up to 8 cm in diameter in a rock of 3.78 Ga.

The last day of the field workshop included an underground tour in the Michurinske uranium mine; this deposit in the southern part of the Ukrainian Shield shows metasomatic biotite gneiss, granites and migmatites. The major ore controlling structure is the Michurinsky fault.

My poster at the Moscow conference, which was entitled Preliminary Comparison of Alteration and Mineralization of two Shear Zone-hosted Gold Occurrences, Brunswick Subduction Complex, New Brunswick, Canada garnered a lot of interest due to the exponential climb of gold prices over the past few years. During some very interesting discussions with world class industry scientists and academics, I got objective feedback and fostered potential research linkages for my thesis.

I believe it is very important to see other mines, to network with exploration geologists and scientists from around the world to exchange research ideas and knowledge. The sessions were very informative and gave me a good summary about general ideas, as well as starting points for more research and concepts to include in my work. For us students it was a great opportunity to talk to other, see excellent presentations, present our research and get feedback.

PhD stands for a “doctor in philosophy”- meaning that we have to share our ideas, defend them against others, and be open for what we think is the right answer with the knowledge at hand. Such conferences and field trips are the best time to do this with colleagues. Inclusion of students, like Jillian and I, is very important, as we are the future geologists and geoscientists that will be making the “big” decisions in the future.

People may ask, "Why is it necessary to go on such trips and conferences?" My answer is this: we as scientists do not live in a bubble: the world and the people around us influence our thoughts and ideas. Interaction with an international audience is essential for the dissemination of scientific concepts and ideas to a greater audience. This conference has given me the opportunity to voice my opinions, challenge my thought patterns and interact with people who will no doubt be to me in the future.

We thank our supervisor David Lentz of the University of New Brunswick (UNB) for giving us the opportunity to present at the IAGOD conference. The funding for Jillian Martin was provided by NSERC and Falconbridge Ltd. (now Xstrata plc.) and for Sabine from NSERC, Stratabound Minerals Corp., and First Narrows Resource Corp. I also thank IAGOD for sponsoring my pre-conference field trip.

Sabine Vetter (University of New Brunswick, Canada)
IAGOD Report for 2007

Meetings and conferences

IAGOD did not hold a meeting in 2007, concentrating its efforts on preparations for field workshops in 2008-2009 and its next Quadrennial Symposium in 2010.

A lengthy IAGOD council meeting was held at the Natural History Museum, London, 29th March 2007.

IAGOD supported a conference on the Tectonics and Metallogeny of the Circum-North Pacific and Eastern Asia from June 11-16, 2007 in Khabarovsk, Russia. The conference was organized by Far East and Siberian Branches of the Russian Academy of Sciences, and several other Russian earth science agencies and institutes.

IAGOD Co-sponsored the international Symposium ‘Large Igneous Provinces of Asia, Mantle Plumes and Metallogeny’, organized by Institute of Geology and Mineralogy, Siberian Branch of Russian Academy of Sciences and held 13-16 August 2007, in Novosibirsk, Russia. The symposium included an expert trip to the Russian and Mongolian Altai took place in August 2007. IAGOD assisted in the organization and with preparing of an English reference guidebook.

An "International Workshop on Central Asian Metallogeny and Orogenesis" took place between September 18th and 24th 2007 in Urumqi, Xinjiang (China), and was accompanied by a field excursion to the Dzhangar region. IAGOD took an active part in the scientific preparation and coordination of this conference.

IAGOD co-sponsored the CERCAMS-9 workshop held at Natural History Museum, London, 29-30 March 2007 under the title “Metallogeny of Central Eurasia from Altai to Uralides – Research in Progress”.

IAGOD co-sponsored a field workshop of IGCP project 486 ‘Au-Ag-telluride-selenide deposits of Southern Finland’, held in Espoo, Finland, August 26th – 31st 2007, as well as the exhibition “Minerals of Namibia” at the TU Bergakademie, Freiberg, Germany 20th October 2006 – 1st June 2007. The exhibition was opened by IAGOD Council member Dr. Gabi Schneider, Director of the Geological Survey of Namibia.


Publications

A new volume in the IAGOD Guidebook series: Magmatism and Metallogeny of the Altai (Seltmann et al.).


Ore Geology Reviews is the official journal of the association. Three volumes of the journal were published in 2007 (volumes 30-32; 296, 383 and 688 pp., respectively). Special issues included ‘Mineral deposits of South China’ and ‘Gold deposits of Quadrilátero Ferrífero, Minas Gerais, Brazil’. See the journal website: http://www.sciencedirect.com/science/journal/01691368

Other activities

1) A new working group (International Uranium Group of IAGOD) was established in 2007. Chairman: Dr. Michel Cuney (CREGU, France); Founder and Executive Secretary: Dr. Yu. B. Mironov (VSEGEI, St. Petersburg, Russia). Secretary: Alexei Aleshin (Moscow, Russia).

2) IAGOD continues to work towards a successful ‘mineral resources’ contribution to International Year of Planet Earth project (IYPE). Ex-officio Council member S. Cherkassov is nominated as IAGOD’s member of IYPE council.

3) Ex-officio Council member has been elected as IAGOD’s representative on the council of the International Geoscience Programme (IGCP) coordinated by IUGS and UNESCO.

4) Members of the IAGOD Working Group on Tin and Tungsten deposits continue to contribute to the compilation of the digital database on global tin and tungsten deposits, with the support of the World Minerals Project of the Geological Survey of Canada. Following completion of the World Minerals in 2004, the world geology and mineral deposit databases were incorporated into the Geoscience Data Repository (GDR) of the Earth Sciences Sector, Geological Survey of Canada.
IAGOD publications

To order from this list, please copy and send to:
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The price of publications listed below includes shipping and packaging; upon request express delivery with charges to be added.

Guidebook Series:

- Au, Ag and Cu Deposits of Uzbekistan (Shayakubov et al., 1999); CD-ROM.
  Price £30  No. of Copies: 

- Granitoids and Related Ore Deposits of the Ural (Seltmann et al., 2000)
  Price £30  No. of Copies: 

- Paleozoic Geodynamics and Gold Deposits of the Kyrgyz Tien Shan (Seltmann & Jenchuraeva, 2001)
  Price £40  No. of Copies: 

- Tectonic Evolution and Metallogeny of the Chinese Altay and Tianshan (Mao et al., 2003)
  Price £50  No. of Copies: 

- Metallogeny of the Pacific Northwest, Russian Far East (Khanchuk et al., 2004a)
  Price £50  No. of Copies: 

- Gold-Silver-Telluride Deposits, South Apuseni Mts., Romania (Cook & Ciobanu, 2004)
  Price £50  No. of Copies: 

- Geodynamics and Metallogeny of Mongolia (Seltmann et al., 2005)
  Price £50  No. of Copies: 

- Ukrainian Carpathians and Ukrainian Shield (Bobrov et al., 2006)
  Price £50.-  No. of Copies: 

- Magmatism and Metallogeny of Altai (Seltmann et al., 2007)
  Price £50.-  No. of Copies: 

Monographs:

- Seltmann et al. (1994) Metallogeny of Collisional Orogens
  Price £40  No. of Copies: 

- Shatov et al. (1996) Granite-related Ore Deposits of Central Kazakhstan (on CD-ROM)
  Price £50  No. of Copies: 

- Kremenetsky et al. (2000) Ore-Bearing Granites of Russia and Adjacent Countries
  Price £40  No. of Copies: 

  Price £40  No. of Copies: 

  Price £50  No. of Copies:  PDF price £100 (circle)

Maps (digital map versions are on CD-Rom in Corel Draw v.9-X3):

- Seltmann et al. (2001-2006) Mineral Deposits map of Central Asia, Scale 1 : 1 500 000, and Explanatory Notes of AV/MapInfo/ArcGIS GIS package “Mineral Deposits of Central Asia” (PDF)
  Price £100.-  (hardcopy)  No. of Copies: 
  Price £117.50.-  (CD, incl. VAT 17.5%)  No. of Copies: 

- Bakirov et al. (2001-2004) Metallogenic map of Kyrgyzstan, Scale 1 : 1 000 000
  Price £40.-  (hardcopy)  No. of Copies: 
  Price £47.-  (CD, incl. VAT 17.5%)  No. of Copies: 

- Nikonorov et al. (2000) Map of Mineral Resources of the Kyrgyz Republic, Scale 1 : 1 000 000 with Explanatory Notes and Deposits Catalogue (map as JPG file; 76p. notes and tables in MS Word)
  Price £40.-  (hardcopy)  No. of Copies: 
  Price £47.-  (CD, incl. VAT 17.5%)  No. of Copies: 

- Petrov et al. (2006) Mineral deposits map of the Urals, Scale 1 : 1 000 000, and Explanatory Notes
  Price £100.-  (hardcopy)  No. of Copies: 
  Price £117.50.-  (CD, incl. VAT 17.5%)  No. of Copies: 

Further information on prices, terms and licensing conditions available from CERCAMS <cercams@nhm.ac.uk>
Ore Geology Reviews – official IAGOD journal

Report of the Editor-in-Chief, March 2007

Online submission

Ore Geology Reviews finally went ‘live’ online at the start of April 2006. Everyone wishing to submit manuscripts to the journal should use this facility. Remember to read the ‘Guide for Authors’.

http://ees.elsevier.com/orgeo/

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Eric Marcoux and Roland K.W. Merkle left the Editorial Board in March 2007.

New board members (from April 2007) are:

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Yong-Fei Zheng. School of Earth and Space Sciences, University of Science and Technology of China, Hefei 230026, China (yfzheng@ustc.edu.cn)

Submission of regular manuscripts in 2006

A total of 51 regular manuscripts were received in 2006 (21 were submitted online)

Origin of submitted manuscripts: China 12; Europe 12; Australia 6; Canada 2; South America 3; Turkey 3; Iran 2; India 3; Russia and Ukraine 4; Africa 3.

Science Citation Index

ISI Web of Knowledge - journal citation reports for 2007 gave the following score for Ore Geology Reviews: 0.987 (0.877 for 2006).

Electronic offprints

Electronic offprints will now be offered for articles published in Ore Geology Reviews. Following the acceptance for publication of their paper, OREGEO authors will now have the choice between electronic offprints (e-offprints) and paper offprints. Authors who prefer paper offprints will of course still receive 25 copies for free. An e-offprint is a watermarked PDF file of a published article. The e-offprint will be provided via e-mail, after the final version of the article is published online. This is beneficial to authors as they will receive their offprints earlier (paper offprints are only sent after the printed issue is published), and it will be easier for them to distribute their article among their peers.

Special issues published in early 2008:

Volume 33, no. 1: ‘Ore-forming processes associated with mafic and ultramafic rocks’ (Guest Editors: M. Economou-Eliopoulos, G. Garuti, J. Mungall)

Volume 33, nos. 2: Non-sulphide zinc deposits, Proceedings of Sardinia Workshop (Guest Editors: A. Gilg, M. Boni, N.J. Cook).

Volume 33, nos. 3-4: Selected Papers from ICAM 2004 on Developments in Applied Mineralogy (Guest Editors: F.D. de Andrade, A. Gilg, N.J. Cook).

Coming in late 2008: Special issue on gem deposits (Ian Graham, Khin Zaw, Nigel Cook)

Nigel J. Cook

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Profiles of IAGOD council members:

Gabi Schneider (Regional Councillor for Africa)

Dr Gabi Schneider graduated in 1980 with a M.Sc. in Economic Geology from the University of Frankfurt, where she also obtained her Ph.D. in the Faculty of Science in 1984. After working for the Institute for Geochemistry and Metallgesellschaft, both in Frankfurt, she joined the Geological Survey of Namibia in 1985 as a Senior Geologist. Here she headed the laboratory, before she became Deputy Director in the Division Applied Geology. Following her appointment as Director of Mines in 1995, she has been the Director of the Geological Survey of Namibia since 1996.

Her professional experience covers economic and exploration geology, mineralogy and geochemistry as well as management and administration. She is also a Director of the National Petroleum Corporation of Namibia (NAMCOR) and the Small Miners Assistance Centre. She is a member of the Mineral Development Fund Control Board of Namibia, the Board of Trustees of the Namibian Institute for Mining and Technology and the National Monuments Council of Namibia, where she holds the post of Chairperson of the Scientific Committee. She is a founding member of the Small Miners Association of Namibia. Dr Schneider serves on the Council of the University of Namibia, where she is also a member of the Executive Committee. She has been an external examiner of the University of St Andrews, UK; the University of Frankfurt, Germany and UNISA, South Africa.
ERIK HAMMERBECK (IAGOD President 2000-2004)
A tribute to a life dedicated to economic geology, nature and humanity

by Paul E. Wipplinger

Erik Carl Ivar Hammerbeck was born on 4 May 1939 in Swakopmund, Namibia, and passed away in Pretoria on 24 April 2006. He attended the Swakopmund High School, and graduated with Geology and Physics as majors from the University of Stellenbosch.

Between 1961 and 1963 Erik worked as a junior exploration geologist for the Tsumeb Corporation, where he was involved in geological mapping and exploration drilling at the Kombat Mine. He continued his studies at the University of Pretoria and received his B.Sc. (Hons) degree in 1964 and an M.Sc. degree in 1965. He was awarded the 2nd prize by the Geological Society of South Africa for his M.Sc. thesis “Die graniet van Steelpoort Park (Oos-Transvaal), 'n intrusie transgressief oor die gelaagdheid van die Bosveld Stollingskompleks” (“The Steelpoort Park granite (Eastern Transvaal), an intrusive transgressing the Bushveld Igneous Complex layering”).

From 1965 until his retirement in May 2004, Erik worked for the Geological Survey of South Africa, which became the Council for Geoscience (CGS) in 1993. He started his career as geologist investigating, inter alia, lead-zinc mineralisation in the Western Transvaal, and pioneered investigations into the heavy-mineral sands at Richards Bay. He studied at the University of Munich, Germany from 1969 to 1970 with a grant from the Alexander von Humboldt Fellowship.

In 1970 Erik was promoted to Senior Geologist and his duties included the investigation of the Usushwana Complex. In 1975, as Chief Geologist, he was in charge of various projects in the Economic Geology Section, producing the first Minerals Map of South Africa.

In 1978 the University of Pretoria awarded him a D.Sc. degree for his thesis “The Usushwana Complex in the southeastern Transvaal, with special reference to its economic mineral potential”.

From 1980 Erik headed the Mineral Resources Division to which, in 1988, was added the Fossil Fuels Division. In this capacity he guided the inception and development of SAMINDABA (South African Mineral
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Deposits Database) and GEODE, the CGS’s corporate database. He initiated the CGS’s Metallogenic Mapping Programme from which maps at scales of 1:1 000 000, 1:250 000 and 1:100 000 were produced, covering South Africa’s most important metallogenic domains.


As head of the Mineral Resources Division, Erik participated in various national and international committees, including:

- ISMI (International Strategic Minerals Inventory), a working group consisting of representatives of the USA, Canada, the UK, Germany, Australia and South Africa, tasked with the compilation and publication of reports covering strategic minerals in the world.
- Commission for the Geological Map of the World (CGMW), as convener for the production of the Minerals Map of Africa.
- South African National Geoscience Programme.
- International Union of Geological Sciences (IUGS).

Between 1999 and his retirement in 2004, Erik was in charge of the Strategic Planning Unit, aimed at developing new business opportunities for the CGS. Projects that emanated from his work involved Morocco, Mauritania, Fujairah (U.A.E.), Mozambique and Papua New Guinea. After his retirement Erik continued to supervise the Mozambique project.

Erik was an active member of the Geological Society of South Africa, of which he was president in 1992, a member of the Society of Economic Geologists, council member of the South African Council for Professional Scientists (SACNASP), president of the Joint Council of South African Natural Scientists in 1991, president of the International Association for the Genesis of Ore Deposits (IAGOD) in 2000, member of the South African National Committee of the International Union of Geological Sciences (IUGS), and president of the Subcommission for the Metallogenic Map of the World, under the auspices of the Commission of the Geological Map of the World.

Erik was author of 24 publications and co-authored another 13. He contributed to papers presented at 7 international and national conferences, and contributed to 4 maps published by the CGS.

His colleagues and friends will remember Erik for his sense of humour, modesty and humility, impeccable ethical principles, and his ability to attract gifted people of all backgrounds. His ability to network with the worldwide geological and minerals community was exceptional. His work extended from project scale in the CGS to cooperation with other organisations within the South African government and semi-government sphere, universities, the South African private sector and the international academic and mining communities. By the mutual and unselfish sharing of the knowledge base within this network, Erik achieved a paradigm shift in the understanding and accessibility of information related to economic geology in South Africa by systematically documenting available data on a national, continental and global scale using scientific methods.

Erik’s subordinates will miss his management style, by which individuals were encouraged to grow, not only in geology but also in the wider geoscientific and peripheral sciences. He encouraged applied research and development and the application of results to the benefit of the CGS and its clients. Erik promoted self-discipline, performance and development within current projects. He was an exceptional mentor in all relevant fields, i.e. science, human development and literary presentation of results. Subordinates were deployed, as far as was reasonably possible, within their specific fields of interest and received personal recognition for tasks well completed. Individuals were allowed a wide sphere of personal discretion in a positive enabling environment and an atmosphere based on mutual trust. In teamwork Erik saw himself as both team leader and team member. Individuals were motivated by their personal pride in not letting their project team down and, especially, by not disappointing Erik. Guidance by Erik was by means of persuasion, based on thoroughly motivated arguments rather than imposition.

Erik led a harmonious family life and traveled widely, both in South Africa and abroad. Erik’s interests outside geology included the bird life of South Africa, hiking and wind-surfing. At home, nature was brought into the house by a view into a garden based on the indigenous plant and bird life of the Meyers Park Ridge. He is survived by his wife Hedda and two daughters, Kirstin and Ulrike.
Our dear friend and loyal servant of IAGOD sadly passed away in April 2008. Jaroslav will, perhaps, be best remembered by readers of this newsletter as IAGOD Secretary General from 1992-2000 and as IAGOD webmaster since 2001. Jaroslav will be deeply missed by his colleagues in his native Czech Republic and by his many friends around the world.

Jaroslav was born July 12, 1955. He obtained his Eng. Degree at the Mining University of Ostrava (VŠB) in 1979. He began his professional career in 1979 at the regional office of the Czech Geological Survey (CGU) in Jeseník as a technical assistant in 1980 and in 1982 became Chief of the Jeseník office of CGU. His main activity in the first decade of employment at CGU was directing the state prospecting project in the Jeseníky Mts. Area, prospecting for gold and base metal ores in metamorphosed pre- and Devonian volcanic-sedimentary terrains. His team undertook geological mapping, geochemistry, geophysics, drilling, calculation of potential reserves, special scientific methods; evaluated more than 20 targets. The group discovered several new deposits and types of mineralization and Jaroslav was an author or co-author of many final reports and articles.

Jaroslav’s academic ambitions led to his obtaining a degree of CSc (equivalent of PhD) at the Czech Geological Survey in 1992. He became, in 1993, Deputy Director of the Czech Geological Survey branch in Brno. In the 1990’s, Jaroslav co-ordinated the regional geological complex project in the Jeseníky Mts. and consulted to foreign companies interested in prospecting the Jeseníky Mts. Area. From 1997 to 2001, he was co-ordinator of geological mapping in the southern part of the Jeseníky Mts.

Jaroslav also participated in mapping and exploration projects in several countries, starting in 1987 when he spent 2 months in the Lupa Goldfield, Tanzania. More recently (2004-2007), he participated in the Foreign Development Project in the Mongolian Altay, Mongolia, involving geochemical prospecting and ore reconnaissance. He also participated at the lectures at the Mongolian University of Science and Technology and at the teaching of Mongolian geologists in the field and during their fellowships in the Czech Republic. Apart from his overseas fieldwork, Jaroslav undertook shorter stays at various research institutions and geological surveys, in the former USSR (IMGRE Moscow, 1984), GDR (ZGI Berlin, 1982), Bulgaria (NIPI Sofia, 1983), Finland (Geological Survey, Espoo, 1987), Germany (Potsdam, 1994), France (BRGM, Orleans, 1999). He gave lectures (Economic Ore Deposits of the World) at the Masaryk University in Brno in 1993-1994.

New technology gave rise to new professional challenges and in 2001, Jaroslav became the Manager for Informatics at the Czech Geological Survey. He was the survey Webmaster and co-ordinator of development of the CGU Information Portal. Jaroslav became increasingly interested in the use of information technology in geosciences, in particular, databases, information portals, websites and presentations, and how geosciences could be promoted using new media.

Jaroslav was, especially in the 1990’s, a participant at international scientific meetings, notably at IAGOD (Tbilisi, 1982), Gold ’88 (Melbourne, 1988), IGC (Washington, D.C., 1989), Poland (IGCP, Krakow, 1989), Canada (IAGOD, Ottawa, 1990), Morrocco (IGCP, Rabat, 1991), Japan (IGC Kyoto, 1992), China (IAGOD Beijing, 1994), Brazil (IGC Rio de Janeiro, 2000), Italy (IGC Florence, 2004)
He joined IAGOD in 1982 and became member of the Council of IAGOD in 1989, becoming IAGOD Secretary General the same year, a position he held for 11 years. During that time, Jaroslav was responsible for editing the IAGOD Newsletter. Jaroslav 'retired' from these heavy responsibilities only to be persuaded by council to continue service to IAGOD and the geological community as IAGOD Associate Secretary General (2000-2004) and webmaster of the IAGOD website (2000-).

Jaroslav was also involved with a number of other societies. He was a member of the SGA Board (1993-1995) and Associate Editor of the journal Mineralium Deposita (1992-1994). He was Member of the Board of the Czech IAGOD National Group and Webmaster of the website of the Society of the Czech Economic Geologists (1998-), Czech Tectonic Group (2002-), CeTEG (2006-). He was co-organizer of many scientific events and field trips, Member of the Board of the Mining-geological Foundation (1995-2000), Member of the Editorial Advisory Board of the Encyclopedia of Geology, member of the IYPE Czech Committee (2006-) and member of the EuroGeoSurveys Outreach Committee (2007-2008).

Jaroslav’s premature death is a huge loss to the geological community in Czech Republic and abroad. Despite his long list of achievements, he will, however, always be remembered by those who had the good fortune to have known him, as a good, patient and loyal friend.

Selected publications:


Gerhard Tischendorf (1927-2007)

On the 10th December 2007 Gerhard Tischendorf passed away just two weeks before his 80th birthday after a short severe illness. We suffer the loss of a prominent representative of the German and international mineralogical and economic geology community. He continued his scientific work right up until the last month of his life.

Gerhard Tischendorf was born on the 25th December 1927, and already at an early age, during his school years, he became interested in natural sciences. As a young soldier he experienced the horrors of World War II. As a prisoner of war he was deported to Ukraine where he spent two years in the underground coalmines of the Donetzk Basin. This experience inspired an interest in mineral resources and their exploitation.

Back in Germany, he enrolled at Bergakademie Freiberg where he studied from 1949 to 1953 - first mining and the then mineralogy with Friedrich Leutwein and Oskar Walter Oelsner. In his dissertation he initially focussed on investigation of the lead-zinc lode deposits of Halsbruecke-Freiberg. Later on, however, he concentrated on the mineralogy and genesis of the selenide mineralisation. He met Paul Ramdohr whose personality had a significant impact on his later scientific career. Gerhard Tischendorf completed his PhD in 1958 entitled ‘Zur Genesis einiger Selenidvorkommen, insbesondere von Tilkerode im Harz’ and in 1965, his Habilitation ‘Zur Verteilung des Selens in Sulfiden’.

After completion of his studies, he was employed as assistant professor at the Mineralogical Institute in Freiberg, and in 1958 he commenced his career at the Central Geological Institute in Berlin where he spent the majority of his professional career. Until 1981 he was leader of various research groups, and from 1961-1963, was also a director. The themes he focussed on during his professional career were prognosis, prospecting, exploration and exploitation of mineral resources, especially of those metals (tin and tungsten) that are spatially and temporally related to granitoids. From 1968-1978 he acted as chairman for the National Committee for Geological Sciences of the German Democratic Republic. From 1971-1979 he managed, jointly with Miroslav Stemprok and Lucien Burnol, the IGCP project ‘Metallization Associated with Acid Magmatism (MAWAM)’. This project studied key questions surrounding the relationship of felsic igneous rocks to Sn-W deposits, using examples of the Czech and German Erzgebirge and the French Massif Central. He was among the founders and an active member of the International association on the genesis of Ore Deposits (IAGOD), with his commitment honoured in 1993 by being awarded Honorary Life Membership of the association.

Due to the conflict between his international networking and the restrictions of the political system in East Germany, he was forced to leave the Central Geological Institute in 1981. After interim employment at VEB Geologische Forschung und Erkundung Freiberg, the opportunity to continue his scientific research appeared in 1983, at the Central Institute for Physics of the Earth (ZIPE) at the Academy of Sciences of the GDR until its closure in 1991 due to the German reunification act. However, from the start of 1992 until his official retirement, he was taken over as an advisory staff member of the newly founded GeoForschungsZentrum Potsdam (GFZ), and continued, from 1993 to 1995, his research as adjunct researcher at the same institution.

During the last decade he was also actively engaged in his various research interests leading to an impressive publication record. His latest senior-authored paper “True and brittle micas: composition and solid-solution series” was published in September 2007 in London. His retirement years were possibly his most successful years as a
mineralogist, dedicating his time - alongside his granite research - to his preferred minerals: the selenides and micas. His publication record encompasses, besides books and monographs, about 150 papers as author or co-author in German, and also numerous papers in international peer-review journals, including *Journal of Petrology*, *Lithos*, *Mineralogical Magazine* and *The Canadian Mineralogist*.

His scientific achievements were awarded by making him a honoured citizen of the Technical University Bergakademie Freiberg, his alma mater where he was for many years a guest lecturer of the course “Special geochemistry and metallogeny”. In 2002, the Commission for New Minerals, Nomenclature and Classification of the International Mineralogical Association accepted the mineral name “Tischendorfite” with the ideal formula \( \text{Pd}_8\text{Hg}_3\text{Se}_9 \). This mineral was first described by Gerhard Tischendorf 50 years ago as an unnamed species from Tilkerode in the German Harz Mountains.

Gerhard Tischendorf’s death is a tremendous loss to the geoscientific community. We will remember him as a charismatic and enthusiastic scientist and a widely admired colleague and friend.

### Selected publications


trioctaedrischer Glimmer. – Z. geol. Wiss. 9, 427–459.


Prof. Pavel Koval (1940-2006)

Professor Pavel Vladimirovich Koval of the Vinogradov Institute of Geochemistry, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia, died on 12 November 2006 at the age of 66.

Beside his close collaborative links with IAGOD he was a member of the International Mineralogical Association, International Association of Prospecting Geochemistry, Working group of "Global Geochemical Baselines", member of the Coordination Scientific Board at the Governor of the Irkutsk Oblast, United Scientific Board of Siberian Branch of the Russian Academy of Sciences, Bureau of Interdepartmental Board on Geochemical Mapping and Geocology, Bureau of Expert Scientific Board at the Regional Committee of Ecology, Commission of cartography of Siberia and Far East, dissertation Board at the A.P. Vinogradov Institute of Geochemistry, Siberian Branch of the Russian Academy of Sciences.
Several projects were developed under the leadership of P.V. Koval during the last five years. These included the first project aimed at development of an ecological monitoring system in the Irkutsk oblast; compilation of a set of geochemical maps of the Baikal polygon that aimed at prospecting geochemistry, aero-geochemistry, ecology and sustainable nature management; and a project on “Evaluation of the state of mercury contamination of the Bratsky reservoir and development of improvement measures for ecological conditions”. Since 2005, under the leadership of P.V. Koval, there were carried out work on an engineering-ecological component to the unique project on gas supply of the Baikal region (Koviktinskoye gas condensate deposit Sayansk-Irkutsk) and on the oil pipeline between Verkhnechonskoye deposit and Ust’ Kut.

P.V. Koval successfully combined his research with teaching as a professor at the Irkutsk State Technical University (from 1996) and at the Irkutsk University (from 2006). In 2004 he developed new educational geo-ecological courses such as “Geochemical cycles and migration of toxic substances”, “Regional environmental geochemistry”, “Ecological and environmental protection”, and “Ecological geochemistry”. During the last five years he trained four postgraduate students and two PhD theses were defended with him as a supervisor. In 2001 the Charitable Fund of Support for Science awarded P.V. Koval with the Premium of Academician V.E. Sobolev in ecological geochemistry. P.V. Koval is awarded with the Diploma of the Governor of the Irkutsk oblast for his active work directed to the development of scientific-economic potential of the Irkutsk oblast.

The geoscience community has lost an internationally well-known and highly reputed Russian geologist working in environmental and endogenous geochemistry.

Vitaly Sotnikov (1932-2006)

Professor Vitaly Sotnikov died on 31 July, 2006, in Novosibirsk (Russia) after heavy disease. He was 73. V. Sotnikov was born in Ush-Tobe, Kazakhstan, on October, 14, 1932. He entered Moscow Institute of Base Metals and Gold, Russia in 1950, where he received A.B. and M.A. degrees in 1955 and 1958, respectively. He worked at the Institute of Geology and Geophysics, Novosibirsk, Russia (later renamed to the Institute of Geology and now (from 2006) known as Institute of Geology and Mineralogy) from 1958 to his death. He earned his PhD and doctoral degree at this Institute in 1962 and 1986, respectively. In 1987 he headed the Laboratory of Ore-Magmatic Systems. At the same time (from 1968) he was active in teaching with students in Novosibirsk State University at the Department of Mineral Deposits, and in 1991 V. Sotnikov accepted a position of Professor at Novosibirsk State University.

V. Sotnikov made important contributions to understanding the geology, origin and evolution, especially in hydrothermal porphyry Cu-Mo systems of Siberia (Russia) and Mongolia. His research in this field is much admired by colleagues. His practical experience and strong academic training produced an outstanding geologist. He authored more than 300 articles and 11 monographs. V. Sotnikov took part in International research projects with scientists from Greece, Mongolia, China, USA, S. Korea, and Japan.

Prof. V. Sotnikov received many awards and honors for his work. For a series of publications "Magmatic and endogenous formations of Siberia" V. Sotnikov with co-authors were awarded by USSR State Prize in 1983. His scientific research "Copper and molybdenum metallogeny in southern Siberia and Mongolia" resulted in being presented the bronze medal of Exhibition of Achievements of the National Economy in 1989. In 2003 he was conferred the rank of Honored Scientist of Russian Federation.

We will remember in Prof Sotnikov, a long-standing and active member of the Russian National IAGOD Group, as a dedicated researcher who achieved outstanding progress in his field. His passing away is a loss to his family, his friends and his colleagues and to the whole scientific community and leaves a gap that will proof hard to be filled in the near future by somebody of same scientific and human calibre.
Sergey Rodionov

Corresponding Member of Russian Academy of Sciences
Director of the Institute of Tectonics and Geophysics of the Far eastern Branch of Russian Academy of Sciences

On February 10th, 2007, the Russian geological community lost one of its brilliant members. Dr. Sergey Rodionov passed away at the peak of his carrier and talent, being only 58 years old. Sergey Rodionov graduated from Moscow University (1971), Ph.D he confirmed at the Institute of Ore Deposits Geology, Petrography, Mineralogy, and Geochemistry of Russian Academy of Sciences (1975). In 1975 he permanently settled in Khabarovsk and worked firstly at the Far East Research Institute of Mineral Raw Materials and later at the Institute of Tectonics and Geophysics of the Far Eastern Branch of Russian Academy of Sciences.

His scientific interests covered a broad spectrum of ore formation aspects: zoning and structural features of ore deposits and districts, mineralogy, typification of ore deposits, local and regional metallogeny and geotectonics. For the last period he mostly concentrated on the study of tectonics and deep structure of ore-bearing territories and ore deposits.

He participated in multiple international projects, research programs of the Far Eastern Branch of Russian Academy, integral projects. As the leader and active participant he contributed so much to major generalizations made for tin- and molybdenum-bearing areas in southern and north-eastern territories of the Russian part of Circum Pacific, their geodynamics, magmatism and metallogeny. Sergey Rodionov, the author of a principally new approach to general forecast methodology applied to ore districts, developed an original experimental system of computer forecasts.

He was a nice and friendly person with a sparking sense of humor, talented in different areas. His family, friends, and colleagues will always remember and miss him.

In Memoriam Vilen Andreevich Zharikov

Alas, fate ordered otherwise, Vilen A Zharikov died unexpectedly on July 29, 2006, only a couple of months before his 80th anniversary. Since 1950, when Zharikov graduated from the Moscow Geological Prospecting Institute, all his life has been connected with the science. He began his scientific career as a post-graduate student of the great Russian scientist D.S. Korzhinskii, received his candidate of sciences degree in 1955 and his doctor of sciences degree in 1966. In 1972 Zharikov was elected a corresponding member and in 1987 a full member of the Russian Academy of Sciences. The scientific interests of Zharikov embraced all fields of endogenous petrology and geochemistry, including extremely complex problems of skarn formation, experimental modeling of natural processes, problems of magmatic replacement and fluid--magma differentiation, genesis and stages of formation of various types of metasomatic rocks and wallrock zoning, processes of granitization, thermodynamics of natural multicomponent systems, and many others. In all these fields, he achieved prominent results, which were highly acknowledged by petrologists and geochemists in Russia and worldwide.
Of tremendous importance was the foundation of the Institute of Experimental Mineralogy in Chernogolovka, Moscow oblast by Korzhinskii and Zharikov, who became its director in 1979. This institute has rapidly acquired a leading position in the experimental investigation of endogenous processes. Over many years, Zharikov held the chair of geochemistry at Moscow State University, where he supervised 23 doctoral and 40 candidate dissertations.

Zharikov received many governmental and scientific awards for his scientific achievements, including the State Prize of the USSR (1975), the Korzhinskii and Lomonosov prizes of Moscow State University, and the Grand Prize of MAIK Nauka/Interperiodica of 2004. He was awarded the Order of Merit for the Motherland of the Third Class (1996) and elected an honorary member of a number of foreign scientific unions. Since the foundation of the international journal “Petrology” Zharikov had been its permanent editor-in-chief.

Together with all Russian geologists, all geologists of the world mourn deeply over the untimely death of Vilen A. Zharikov, a remarkable scientist and a brilliant, witty, and talented man.

George P. Zaraisky

Following an initiative of IAGOD Councillor Thomas Seifert, IAGOD proudly co-sponsored a special mineral exhibition on the “Minerals of Namibia” at the TU Bergakademie, Freiberg. The exhibition was opened by IAGOD Council member Dr. Gabi Schneider, the Director of the Geological Survey of Namibia.
Reports of the IAGOD National groups


Membership.

New members

The following Russian members have joined IAGOD:

Gorelikova, Nina Vasilievna, PhD, born 1939, senior scientist, IGEM RAS, Staromonetny Per., 35, Moscow 119017, Russia. Tel. (7-495) 230-8232, Fax: (7-495) 230-2179, e-mail: ngor@igem.ru.

Aleshin, Alexey Petrovitch, PhD, born 1963, leading research associate, IGEM RAS, Executive Secretary, Russian IAGOD Group, Staromonetny Per., 35, Moscow 119017, Russia. Tel. (7-495) 230-8233, Fax: (7-495) 230-2179, e-mail: aleshin@igem.ru.

Deceased members:

Russian IAGOD Group sadly lost three outstanding scientists in 2006:

Goncharov, V.I., academician (1939-2006), former Director of NEISRI FEB RAS, Magadan, Depury Rector of University in Vladikavkaz, Ossetia.

Zharikov, Vilen A., academician (1926-2006), former Director, Institute of Experimental Mineralogy, RAS, Chernogolovka, past Vice-President IUGS.

Sotnikov, Vitaly I., D.Sc. (1932-2006), head, Metallogenic lab, United Institute of Geology and Geophysics, Novosibirsk.

New addresses

Voroshin, Sergey V., D.Sc., Geological Management, Joint stock Co. “Norilsk Nickel”, Voznesensky Per., 22, “Usad’ba Centre”, Moscow 125993, Russia, tel. (7-495) 787-7667, ext. 3431, e-mail: voroshin@nornick.ru.

Stepanov, Vitaly A., Deputy Director, Geotechnological Centre, P. Box 52, Petropavlovsk-on-Kamchatka, Russia, e-mail: vitstepanov@yandex.ru.

New e-mail addresses

Aleshin A.P – aleshin@igem.ru
Gorelikova N.V. – ngor@igem.ru
Moiseenko, V.G. – amurnc@ascnet.ru
Sorokin, A.P. – igip@ascnet.ru
Stepanov, V.A. – vitstepanov@yandex.ru (Petropavlovsk-on-Kamchatka)
Voroshin, S.V. – voroshin@nornick.ru

Members who have left IAGOD due to change of professional work:

Myznikov, I.K. – left IGEM RAS, Moscow for business.

Changes in leadership of Russian IAGOD Group

Instead of I.N. Kigai, former leader of Russian IAGOD Group, a new leader was elected in August, 2006 during XII Quadrennial IAGOD Symposium in Moscow at a General Meeting of Russian IAGOD Group: Bortnikov, Nikolay Stefanovitch, Corresponding Member of RAS, Director, IGEM RAS. He will be assisted by Executive Secretary of Russian IAGOD Group – Dr. Aleshin, Alexey Petrovitch, leading research associate, IGEM RAS.
Events in 2006

Members of Russian IAGOD Group were organizers and active participants in the following events:


(4) 12th Quadrennial IAGOD Symposium “Understanding the Genesis of Ore Deposits to Meet the Demands of the 21st Century”, 21-24 August 2006, Moscow. 346 participants, 192 from abroad (from 40 countries) included.


Events in 2007

Organizer – Yu.A. Kosygin Institute of Tectonics and Geophysics (ITiG FEB RAS). There will be several pre-Conference, during Conference and Post-Conference field trips.

All information can be seen at the website of the Conference: http://itig.as.khb.ru/conf/parfenov-2007/parf_en_00_conf_2007.html
E-mail: conference_ru@itig.as.khb.ru

International Symposium “Large Igneous Provinces of Asia, Mantle Plumes and Metallogeny”, 13-16 August 2007, Novosibirsk, Russia.
Organized by the Institute of Geology and Mineralogy, Siberian Branch of RAS. Planned field trips: Pre-Conference Field Trip “Metallogeny of the SE Altai (Russia) and NW Mongolia ore district, Permian-Triassic boundary” and Post-Conference Field Trip “Devonian, Permian-Triassic and Cretaceous Magmatism (Kolyvan-Tomsk area, Kuznetsk and Minusa Depressions)”.

Contacts: http://www.uiggm.nsc.ru/conf/lip-asia
E-mail: lip-asia@uiggm.nsc.ru

IAGOD National Group of Russia (158 members as for 07/12/2006)
Leader – Bortnikov, N.S. (IGEM RAS), Executive Secretary – Aleshin, A.P. (IGEM RAS).

Members: Ahmukhamedov, A.I. (Irkutsk), Akinfiev, N.N. (Moscow), Aksyuk, A.M. (Chernogolovka), Aleshin, A.P. (Moscow), Alexandrov, S.M. (Moscow), Alexeyev, V.A. (Moscow), Andreyeva, O.V. (Moscow), Antipin, V.S. (Irkutsk), Baksheev, I.A. (Moscow), Bakulin, Y.I. (Khabarovsky), Baskina, V.A. (Moscow), Belyatsky, B.V. (St.-Petersburg Bogdanov, Yu.V. (St.-Petersburg), Borisenko, A.S. (Novosibirsk), Borisov, M.V. (Moscow), Bortnikov, N.S. (Moscow), Bushmin, S.A. (St.-Petersburg), Buslaev, F.P. (Ekaterinburg), Chashchin, A.A. (Vladivostok), Cherkasov, S.V. (Moscow), Chernyshev, I.V. (Moscow), Dergachov, A.L. (Moscow), Distanov, E.G. (Novosibirsk), Distler, V.V. (Moscow), Dobrovol’skaya, M.G. (Moscow), Dolzhenko, V.N. (Bryansk), Dyuzhikov, O.A. (Moscow), Eremin, N.I. (Moscow), Evstigneeva, T.L. (Moscow), Fedkin, A.V. (Chernogolovka), Fedorov, D.T. (Moscow), Gavrilenko, V.V. (St.-Petersburg), Genkin, A.D. (Moscow), Goryachev, N.A. (Magadan), Goryachev, D.V. (Moscow), Grokhovskaya, T.L. (Moscow), Gvozdev, V.I. (Vladivostok), Gvozdev, V.I. (Vladivostok), Gvozdev, V.I. (Vladivostok), Ivanova, A.A. (St.Petersburg), Kasatkina, S.A. (Vladivostok), Khanchuk, A. (Vladivostok), Khodanovich, P. (Ulan Ude), Kholodnov, V.V. (Ekaterinburg), Khomich, V.G. (Irkutsk).
Alexei ALESZHIN is the new Secretary of the Russian IAGOD National Group. He completed his PhD thesis on the mineralogy, geochemistry and fluid inclusions in the Muruntau gold deposit in 1989. Today, he works on reserves and geological settings of Mo-U deposits of the Streltsovsky caldera (Eastern Transbaikalia, Russia). He works in the laboratory of radiogeology and radiogeocology at IGEM-RAS, Moscow and undertakes close collaboration in the field of uranium geology with specialists from CREGU (Nancy, France).

The Russian Far East IAGOD Group is a part of the National IAGOD Group of Russian Federation and consists of 21 members.

The main events in activity of Far East Russian IAGOD group in 2006 were:

**Organization and participation in scientific conferences and symposia**
1. Understanding the genesis of ore deposits to meet the demands of the 21st century. 12th quadrennial IAGOD Symposium 2006, Moscow. The President IAGOD and Chairman of the Russian Far East IAGOD Group Academician A.I. Khanchuk took part in it and was LSC Vice-Chairman. Gonevchuk V.G., Orekhov A.A. and Plyusnina L.P. took part in it with poster reports.

**Participation in International projects**
The Acad. A.I. Khanchuk take part, in International project UNESCO IGCP-473 “Metallogeny of the North West Circum-Pacific”. Research agreement between Far East Geological Institute (Russia) and the Natural History Museum (London, UK)

Many members of the group took part in the projects of the Russian Fundamental Studies Foundation studying the ore deposits genesis.

**Selected publications**

Book 1 - P. 1-572 + color map.
Book 2 - P. 573-981 + 5 quire color insert.
The monograph contains the most complete and comprehensive modern information on tectonics, geodynamics, seismicity, magmatism, and minerals of the Russian Far East margin. Terranes of different geodynamic nature as well as the overlap complexes and the magmatic and metallogenic belts are described. Mineral deposits formed in the environments related to lithospheric plate interaction of subduction, transform, and collision nature and ascending mantle plumes are discussed as well. The present-day geodynamics, seismicity and deep structure of the Russian Far East are considered. Mesozoic and Cenozoic geodynamic history of East Asia was first represented as alternating in time and space suprasubduction-type and transform continental margins. The monograph concerns the tectonic, geochemical and metallogenic signatures for ancient transform margins in the region.

The book is of interest to researchers and postgraduate students working in the geoscience and mining sector, as well as college and university teachers and students.
Ill. 318, tabl. 73, bibl. 2138.


Chairman of the Russian Far East IAGOD Group Academician A.I. Khanchuk

Contributed by Secretary: of the Russian Far East IAGOD Group G.A. Gonevchuk, Far East Geological Institute of FEB of Russian Academy of Sciences. 159, Prospect 100-letiya, Vladivostok, 690022, e-mail: gonevchuk@hotmail.com or gonevchuk@fegi.ru.

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Report of the Kazakhstan National IAGOD Group for 2006

Conference participation in 2006 (IAGOD members participating with oral and poster presentation are indicated in brackets):

1. Scientific-Practical Conference “Prognosis, Search, Estimation of Ore and Non-Metallic Deposits on the Base of Their Complex Models – Achievements and Perspectives”. Moscow, Russia, 4-6 April 2006 (V.L. Los).
2. 6th International Forum “Fuel and Energy Complex of Russia”. Saint-Peterburg, Russia, 6-11 April 2006 (V.F. Dolgopolov).

**Participation in International Projects**

Kazakhstan National IAGOD Group members O.A. Fedorenko and M.S. Rafailovich are Leaders and Coordinators of International Project “Geology, Geodynamics and Metallogeny of Central Eurasia”. They arranged a regular working meeting and conference of countries-executors of that project (Kazakhstan, Russia, Uzbekistan, Kyrgyzstan, Azerbaijan) (Almaty, Kazakhstan, 5-8 June 2006).

**Scientific monographs**

Seltmann R., Dolgopolova A.V. (Eds.), 2006. Uranium of Mongolia (author Yu. B. Mironov). English edited version, 230 pp. General problems of geology, tectonics, and metallogeny of Mongolia are considered. The radiogeochimical and metallogenic subdivision of this territory with respect to uranium was carried out for the first time. The economic and prospective types of uranium ore mineralization are characterized and the uranium ore provinces and districts are outlined along with estimation of their possible uranium resources. The main attention is focused on the known and permisive uranium ore districts as targets for further geological exploration. The book is intended for a wide circle of geologists dealing with geological exploration of uranium deposits and study of uranium ore provinces and districts in Mongolia. The conclusions drawn in this book may be helpful in the decision making related to the development of mineral resources of Mongolia and particular provinces of this country. 22 tables, 29 figures, 63 references.

**Selected publications**


Planned activities for 2007

1. New publications (monographs, articles, methodical recommendations) in the sphere of the geology and genesis of ore deposits (national and international magazines).
2. Organization and participation in International Scientific Meetings, Conferences and Field Excursions.
3. Cooperation with other IAGOD National Groups (Kyrgyz, Uzbekistan, Russia, China et al.) on the basis of International project “Geology, Geodynamics and Metallogeny of Central Asia”.

Current list of members of the Kazakhstan IAGOD National Group (January 2007)

Chairman: Prof. Mikhail Rafailovich Scientific Institute of Natural Resources YUGGEO, Shevchenko Str., 162 zh, 050008, Almaty, Republic of Kazakhstan. Tel.: (3272) 684098; Fax: (3272) 686369; E-mail: rafail@nets.kz.

Prof. Bespaev Kh.A. (Almaty), Dr. Dolgopolov V.F. (Almaty), Dr. Dolgopolova A.V. (London), Prof. Dyachkov B.A. (Ust-Kamenogorsk), Dr. Fedorenko O.A. (Almaty), Dr. Glukhan I.V. (Karaganda), Prof. Los V.L. (Almaty), Dr. Maiorova N.P. (Ust-Kamenogorsk), Prof. Serykh V.I. (Karaganda), Dr. Usoltsev I.I. (Almaty), Dr. Yartseva L.A. (Almaty).

New member of Kazakhstan National IAGOD Group

Dr. Maiorova Nina Petrovna, Altay Branch of K.I. Satpaev Institute of Geological Sciences. Karl Liebknecht Str., 21, Ust-Kamenogorsk, 070000, Kazakhstan, Tel: (3232) 252723; Fax: (3232) 252344; E-mail: sapar@vko.kz

Contributed by Mikhail Rafailovich, chairman, e-mail: rafail@nets.kz

Report of the Kyrgyzstan National IAGOD Group for 2006

17 members are in IAGOD National Group of Kyrgyzstan:
Aitmatova, Djamila (PRMI), Bakirov, Apas (IG, NAS), Bogdetsky, Valentin (SAG&MR), Djenchuraeva Alexandra (SAG&MR), Kabaev, Omorkui (MRI), Kim, Vlas (KSTU), Maksumova, Rena (IG NAS), Malyukova, Nataly (KRSU), Mikolaichuk, Alexander (IHT), Nikonorov, Valentin (SAG&MR), Pak, Nikolay (IG NAS), Shamshyev, Orunbay (OTU), Savchenko, Gennady (SAG&MR), Stavinsky, Vitaly (KMA), Usmanov, Itlyzar (IG NAS), Usubaliev, Tourat (TGC).

E-mail addresses of Kyrgyz Group IAGOD Members:

Aitmatova, Djamila djam@mail.kg; Fax: 996 (312) 541117;
Bakirov, Apas geol@aknet.kg; Fax: 996(312) 664256;
Maksumova, Rena rmaks@istc.kg;
Malyukova, Nataly nmm333@mail.ru;
Mikolaichuk, Alexander mav@tiger.edirc.ru; IVTANgora@mail.ru;
Nikonorov, Valentin nikonorov99@mail.ru;
Pak, Nikolay pak@istc.kg;
Usmanov Iltizar iltizar@yandex.ru;

Selected publications


Prepared for publication:

Maksumova, R., Tectonic map of nappe-folded building Kyrgyz Tien Shan. 1:1000 000 scale with separate description (2006)

Maksumova, R., Paleogeographic maps 1:1 000 000 scale with distribution of the minerals (sections R3-V1, V2-C1, C2-O1) and with separate description (2006).


Dzhenchuraeva, A., Paleogeographic maps 1:1000 000 scale with distribution of the minerals (sections C1-P) and separate description (2006).

Contributed by Rosalia Djenchuraeva, Chairwoman, Institute of Geology NAS, 30 Erkindik, 720481 Bishkek, Kyrgyzstan; tel. 996 (312) 66 21 89; 66 26 80; Fax: 996 (312) 68 00 47; E-mail: rosalia@mail.kg ;

Report of the Mongolian National IAGOD Group for 2006

Workshops, Symposia:

MINERAL RESOURCES OF MONGolia in 21st CENTury HELD IN NOVEMBER 11-14 IN ULAANBAATAR, MONGOLIA

The conference also included a field excursion to the Erdenet porphyry copper-molybdenum deposit and Boroo gold deposit, and was dedicated to the 75th anniversary of Mongolia-Russia collaboration in the field of geology. Conference was organized by the Mongolian Geological Society, Mineral Resources and Oil Authority of Mongolia sponsored by Erdenet JV, Gold East Ltd., Mongolrostvetmet and MineInfo mining companies. A 176 page abstract volume and excursion guide was edited by O. Gerel and published in Ulaanbaatar (2006). Over 200 participants discussed 40 presentations related to gold, base metal, uranium, coal deposits and regional questions of Mongolia’s geology, tectonics and metallogeny.
‘Geology and Metallogeny of Mongolia’ Scientific Conference, 18-19 May in Ulaanbaatar, Mongolia

23 presentations related to regional geology and metallogeny, stratigraphy and paleontology, hydrogeology and environmental study were discussed. A 150-page special volume of “Geology” (No. 14.8) was published.

Participation in projects:

- “Metallogeny of the Altaids; terrane reconstruction leading to new target regions” joint multilateral project started in 2006. Two transects western and eastern were studied and sampled for geochemistry and age dating.
- “Mineralogy and alteration of the Erdenet porphyry copper-molybdenum deposit’. This three years project finished and report compiled. 135 p.
- Geomap-200 (2000-2010) Members of IAGOD group are involved and are leaders of this ongoing project. The first version of 1:200 000 map, including series discussed and proved.

Field work:

- Two geotraverses were sampled Field trip to Altai area organized by IAGOD National group (Prof. S. Dandar)
- Field trip to Orkhon-Selenge depression (led by G. Dejidmaa)
- PGE filed trip to Mongolian Altai (D. Delgertsogt)
- Field trip to Erdenet deposit (O. Gerel, B. Munkhtsengel)

Selected publications of the National Group


IAGOD NATIONAL GROUP OF MONGOLIA (36 MEMBERS)

Chairwoman: Prof. Ochir Gerel (Dept. of Geology, Mongolian University of Science & Technology. P.O. 46, Box 520, Ulaanbaatar 210646, Mongolia. Tel: 976-11-326425; Fax: 976-11-312291; E-mail: gerel@must.edu.mn)

S. Dandar (Secretary, Mongolian University of Science & Technology), J. Lkhamsuren (Dept. of Geology, Mongolian University of Science & Technology), G. Dejidmaa (Geological Information Center), N. Amitan (Togs Buivant Ltd.), D. Bat-Ulzii (Dept. of Geology, Mongolian University of Science & Technology), J. Ganbold (Mongolian. Academy of Science, Institute of Geology and Mineral Resources), B. Delgertsogt (Geological Information Center), B. Munkhtsengel (Dept. of Geology, Mongolian University of Science & Technology), Sunjidmaa (Mineral Resource Authority of Mongolia), M. Todabileg (QGX Ltd.), D. Sharchuukhen (M& Dimond Ltd.), D. Altanhuuyag (Dept. of Mineral Exploration, Mongolian University of Science & Technology), A. Tsend-Ayush, A. Gotovsuren (Anglogold Ltd.), B. Batkhishig (Tohoku University, Japan), O. Chuluun (Mineral Resource Authority of Mongolia), D. Batbold (Mineral Resource Authority of Mongolia), D. Bold-Erdene (MineInfo Ltd.), H. Gantumur (Mineral Resource Authority of Mongolia), Sambuu Oyungerel (Geoscience Center, Mongolian University of Science & Technology), G. Ukhnaa (Dept. of Mineral Exploration, Mongolian University of Science & Technology), H. Enkhtuvshin (Gallant Minerals Mongolia Ltd), S. Oyungerel (Dept. of Geology, National University of Mongolia), D. Dorjgotov (Dept. of Geology, National University of Mongolia), L. Jargal (Dept. of Geology, National University of Mongolia), Yo. Majigsuren (Geology Center, Mongolian University of Science & Technology), S. Myagmarsuren (Geoscience Center, Mongolian University of Science & Technology), S. Jargalan (Dept. of Mineral Exploration, Mongolian University of Science & Technology), Batsersen Soyolmaa (Geoscience Center, Mongolian University of Science & Technology), Sanjsuren Oyunbat (Geo-Info Co. Ltd., Mongolia), Namsraijav Baatar (Dept.of Mineral Exploration, Mongolian University of Science & Technology), Togookhuu Sengedorj (Mongolian Alt Corporation, Mongolia), Battseren Soyolmaa (Geoscience Center, Mongolian University of Science & Technology), Namsraijav Baatar (Dept.of Mineral Exploration, MUST (Mongolian Alt Corporation, Mongolia); Naidansuren Tungalag, Institute of Geology & Mineral Resources, Mongolian Academy of Sciences, Renchin Oyunchimeg, geologist, Ivanhoe Mines Mongolia

New Member: Bayaraa Batkhyshig (Dept. of Mineral Resources, Mongolian University of Science & Technology)

Report of the Tajikistan National IAGOD Group for 2006

2005-2006 was the period of reorganization and of first fruitful results. The time was spent attracting
younger scientists (chiefly Ph.D. students) and encouraging them to work in collaboration with foreign scientific groups, which have been working in contact with our Institute of Geology. Two of these graduated their Ph.D. studies in February, took part in international field works in Pamir, and are now recipients of 3-year DAAD grants to work at the TU Bergacademie Freiberg on a joint Pamir-Tibet scientific program concerning deep structure and shortening in Alpine Great Collision (petrology, geochemistry and structures spheres). They have polished their computing and English language skills before leaving for Germany, where they will continue language instruction as well as other specialist topics. The next Ph.D students are going near to graduate in early 2007 under the guidance of A.Faiziev and V. Minaev. An aim is to create a modern youthful team to compensate for the retirement of many scientists during recent years.

Selected publications


Future plans

1. To strengthen doctoral studies and skill developments of selected young scientists.
2. To continue research output in petrology and structures of the Pamir-Tibet-North China region.
3. To begin and develop the capital generalization of precious metals and gems in the Pamir – Tien-Shan province in close partnershipo between scientists inside and outside Tajikistan.

IAGOD National Group of Tajik Republic (11 members)

Bahtdavlatov, Rakhmonbek (NGO PGEC); Hudobahsheva, Sharifa (SDG); Ibrihimi, Azim (SDG); Lutkov, Valery (GI TAS); Matveeva, Irina (GI TAS); Minaev, Vladislav (GI TAS); Oimahmadov, Ilhomjon (GI TAS); Revazov, Boris (Cryso Company, Ltd); Fayziev, Abdulhak (GI TAS); Volnov, Boris (SDG).

Explanations: NGO PGEC – Nongovernment Organization “PamirGeoEcoCenter”; GI TAS – Geology Institute of the Tajik Academy of Sciences; SDG – State Department of Geology.
The China IAGOD Group has undergone a number of recent changes. From the beginning of 2007, Prof. Chen Yuchuan and Prof. Pei Rongfu are Co-Chairmen of the China IAGOD Group. Mao Jingwen, Deng Jun, Hu Ruizhong, Li Ziyi, and Wang Jingbin are Deputy Chairmen. Mao Jingwen and Mei Yanxiong are the secretaries in Chief.

**8th National Conference of Mineral Deposits in China, November 27-30, 2006 - an important academic activity of China IAGOD Group**

The 8th National Conference of Mineral Deposits in China was held in Nov. 27-30, 2006 in Nanchang, capital of Jiangxi Province, South China. It was sponsored by China IAGOD Group and the other 18 units. Prof. Chen Yuchuan, the former IAGOD Vice Chairman, and Prof. Mao Jingwen, IAGOD Vice Chairman are the President and Executive Secretary of the Organizing Committee, respectively. The goal of this meeting is “Study of Mineral Deposits to Meet the National Demands: New Opportunity and New Challenge”.

The Governor of Jiangxi Province and President of China Geological Survey attended the Opening Ceremony of the Conference. After the ceremony 16 economic geologists from both academic and industrials gave presentations in planetary session and Dr. Zhang Hongtao, vice president of China Geological Survey reported the new discoveries of mineral resources since the implement of new turn of geological survey in China. The 14 sessions were held in two and half days. They are (1) Metallogenic association, spatial-temporal distribution of ore deposits and their corresponding geodynamic settings; (2) Deep geological process and corresponding large-scale accumulation of ore-forming substances; (3) Metallogeny and prospecting of granite-related ore deposits; (4) Tracer for metallogenic processes by stable isotopes and fluid inclusions; (5) Marine exhalation and massive sulfide deposits: Metallogeny and exploration; (6) Basin (comprising salt-lake) evolution and sedimentary metallogeny and their exploration; (7) Uranium deposits: Metallogeny and exploration; (8) Metamorphic, deformation of ore deposits and their exploration; (9) Paleozoic metallogeny of Xinjiang and adjoining Central Asian countries; (10) Mesozoic large-scale W-Sn-Cu-An-U polymetallic deposits and new discoveries in South China; (11) Cenozoic metallogeny in Tibet and its tectonic settings; (12) Prospecting the deep-level ore deposits: New theories and cases of application for expecting; (13) New technologies and new methods for exploration; (14) National assessment of mineral deposits. Total 534 scholars, mining explorers and students attended the conference and 230 oral presentations are arranged in the varied sessions. It is worth to mention that more 100 Ph. D and
Masters students participated in the conference. Twenty-three students received financial support from the Organizing Committee.

After the conference three field trips are arranged in Northwestern Jiangxi for visiting Porphyry-skarn copper and MVT Pb-Zn, Northeastern Jiangxi for Dexing porphyry copper and Jinshan shear-zone gold and South Jiangxi for several wolframite-quartz vein W-Sn and porphyry Sn deposits. More than 100 people participated in the field trips.

On the whole, this is the largest conference of mineral deposits in Chinese history and was well organized. From the participants we can see more young people are joining us.

The photo shows the closing ceremony of the meeting. The Central person is Prof. Yuchuan Chen, Chairman of Organizing Committee, former IAGOD vice president. The second person from right is Prof. Rongfu Pei, former IAGOD president. The second person from left is Jingwen Mao, Executive Secretary of the Organizing Committee.

The photograph below shows about 85% of the participants. Because there were not enough seats for all participants, the other 15% are still inside the building! The organizing committee had expected ca. 400 participants but more than 500 people attended the highly successful meeting.

Activities of the Georgian IAGOD National Group for 2006

Members of the Georgia National Group are participating in the following International projects:


Recent papers:
V.Gugushvili (2006) Gold-Copper porphyry and epithermal deposits of Bolnisi Mining District (Lesser Caucasus) International Earth Sciences Colloquium. IESCA 2006 Izmir-Turkey. p 143-144

Contributed By Ramaz Migineishvili, Chairman of the Georgian IAGOD Group, Geological Institute of Georgian Academy of Sciences, 1/9 M.Alexidze str., 0193 Tbilisi, Georgia. E-mail: ram_migi@yahoo.com


The main members of IAGOD Group are concentrated at the Institute of Geology and Geophysics of the Academy of Sciences, National University of Uzbekistan and Institute of Mineral Resources of State Committee on Geology and Mineral Resources under general coordination of the Vice-President of the National Committee of Geologists of Uzbekistan (NCGU), B.A.Isakhodjaev. Mineralogical Society of Uzbekistan (Head, Koneev R.I.) meetings are organized by NCGU since 2003. Significant amount of the scientists and experts of all leading scientific, scientific-industrial centers and educational institutions of the Republic are involved to the process of research work.

Forms of organization of research are diverse. First of all there are purposeful laboratory-prospecting works, and also organization of national scientific conferences and symposia, participation in work of international conferences, publications etc.

The main problems and results of studies are:
Discussion of new data on geology, geodynamics, genetic models of deposits, mineralogy, geochemistry, zoning of mineralization. The following themes were considered: genesis and conditions of formation of gold deposits of Karlin type and their perspectives in Uzbekistan; diamond bearing diatremes in Kyzykum; non-traditional gold mineralization of Karlin type in Uzbekistan; Se-Te-mineralization in gold deposits as a criterion of top parts of ore bodies; auriferous fluid-magmatic systems and relation of epithermal gold and copper-porphyry deposits; development of geology-genetic models of formation of gold ore formations of Uzbekistan as a basis of prognosis.

The significant growth for the last 5-6 years of demands of world rare-metal industry has caused appropriate increase of volumes of fundamental and applied researches directed both on extension of perspectives of known rare metals deposits in particular of lithophillic group (Ta, Nb, Be, Li, Rb, Cs), and on revealing of their new geological-genetic types.

« Be - Li - F » granites and granite pegmatites - the derivatives of postcollision plumesite leucocratic granite magmas of crust nature are determined as basic sources of rare metal lithophiles in Uzbekistan. The study of
High concentration of rare metal mineralization in MTSRMB its manufacturability, availability for industrial mastering and developed infrastructure of regions, objectively put forward Uzbekistan to number of the states having a significant potential of lithophillic rare metals. It, in turn, demands intensification of appropriate complex scientific researches in the field of geology, petrology, geochemistry, mineralogy of processes of magmatogenic ore formation and rare metal ores enrichment technology (Ezhkov Yu.B).

For today in the Republic of Uzbekistan are known about 20 tubes. Industrial diamond bearing ability is supposed in three of them.

Diamond bearing lamproites of Southern Bukantau is the unique discovery not only for Uzbekistan, but also for adjacent regions. They have big prognostic significance, as diamond bearing ability of similar manifestations can reach significant scales. The new type of main manifestations of diamonds – melanocratic carbonatites are allocated in Southern Nuratau in the end of 90-th. Recently similar manifestation of diamonds in carbonatites is determined in Spain on Fuerteventure Island.

Dr. F.V. Kaminsky (leading expert in the field of geology of diamond deposits, Doctor of Scinces, Geology-mineralogy sciences, President of KM Diamond Exploration Ltd., Vancouver, Canada) having acquainted with results of works for diamonds has made the conclusion, that the available geological data allow to speak about availability new, Uzbek (or widely - Central - Asian) diamond bearing province. There are various types of diamond bearing non-kimberlite rocks (lamproites, lamprophyres, alkaline basaltoides, picrites, hyperbasites, melanocratic carbonatites) within the limits of the province (Divaev F.).

Studies promoting perfecting, of processing technologies of mined deposits of gold, rare and non-ferrous metals are conducted also. There are some separate results:

Thermoluminescent analysis of 80 samples of quartz of 0.5-0.7 fraction from Muruntau, Myutenbay, Besapantau, Kosmanachi and from South Tamdytau ore manifestation is studied. There are vein type mineralization of (rare metal) – gold ore, arsenic- gold ore and (gold)-silver ore formations composing ores of gold-quartz, gold-sulphide-quartz and (gold)-silver-quartz types. Five types of picks (thermoluminescent maximums) in the following intervals: 200-225, 235-240, 250-265, 270-285; two-pick curves with thermoluminescent max1 - 200-225°C, thermoluminescent - max2 - 260-280 have been revealed by thermoluminescent curves.

Considerable differences of thermoluminescence parameters and thermal activation energy at quartz from different productive and oreless mineral associations have been determined. It allows to use this typomorphic feature of natural types of ores at allocation and at technological mapping on the stage of information preparation of industrial objects of gold-quartz and gold-sulphide-quartz geological industrial types for mining and processing of mineral raw material. (Koloskova S. M.)

ISP MS and Jeol studies of Muruntau and Kochbulak ores which traditionally are related to gold-quartz and gold-sulphide-quartz geological-industrial types revealed new mineralogical-geochemical peculiarity. First – in both cases, in spite of composition of host rocks, gold forms microsambs with tellurides and selenides but in Muruntau exceptionally bismuth and in Kochbulak – silver, gold, bismuth, lead, antimony, etc. Second - Pd, Pt,Se,Te, rhenium-bearing molybdenite, other metals constantly present in the ores. Rhenium-bearing molybdenite sometimes forms concentrations comparable with its content in Kalmakir copper-porphry deposit. According to classification of gold ores by processing technology determining properties of Hamilton, Plaksin, Zelenov the studied ores have to be related to gold-tellurium-rare metal industrial type, not to gold-quartz or gold-sulphide-quart type, as it is assumed now. (Koneev R.I.).

During reported period the following meetings were held in Tashkent:
The Republican Conferences: “Magmatic, metasomatic formations and related mineralizations”; and “Geological-genetic 3D modeling – is the base for prognosis and modelling basis for the prognosis and evaluation of covered deposits”.

International Symposium “Modern methods of research and perspective of use of inclusions of mineral forming means in science and practice. APIFIS III” and International Conference "Conditions of formation, regularities of distribution and prognosis of mineral deposits”.

Scientific and technical seminar “Problems of processing of mineral raw material of Uzbekistan », etc.

Participation in fulfillment of the international grants and conferences:

The project “Evaluation of current environmental state and ecological risks in Ferghana valley region. An evaluation of a condition of an environment and ecological risks in region of the Ferghana valley” was executed within the framework of INTAS grant (Ref. № 2002-2221. June 2002- May 2005). Grant INTAS-04-83-2623 on a theme “Heavy metals in soils of Angren-Almalyk mining industrial area”.

Participation in work of 32-d International Geological Congress (Florence, Italy).

Participation in VII-th International Conferences “New ideas in Earth Sciences” (Moscow, April, 2005).

International Field Workshop of IGCP-486, Albalulia, Romania.

X-th Congress of Russian Mineralogical Society, St.-Petersburg. Russia.


10-th International Platinum Symposium, Oulu, Finland.

Conference of the Siberian Branch of Russian Academy of Sciences “Nobel and rare metals of Siberia and Far East ». Irkutsk, Russia.

International Field Workshop of IGCP-486. Izmir, Turkey.

19th General Meeting of the International Mineralogical Association «Expanston to Nano, Bio, and Planetary World». Kobe, Japan.

International Meeting of the Siberian Branch of Russian Academy of Sciences «Actual problems of ore forming and metallogeny’’. Novosibirsk. Russia.

12th Quadrennial IAGOD Symposium 2006. Moscow.

Uzbek National IAGOD Group together with National Committee of Geologists of Uzbekistan, Almalyk Mining-Metallurgical Complex, National University of Uzbekistan, CERCAMS NHM prepared and held International Field Workshop of IGCP-473 and 486. «Porphyry and Epithermal Deposits of the Chatkal-Kurama Region» (Tashkent, April, 22-30).

The Institute of Mineral Resources and The State Geological Information Center of The State Committee of the Republic of Uzbekistan is continued together with the Korean Center KIGAM research works for creation of 3D prognosis model Zirabulak mountains region.

Publications:

The following monographies in Russian are published by members of Uzbek National IAGOD Group during reported period:


Members of Uzbek National IAGOD Group actively participate in development of young geology manpower. T.N. Dalimov, I.M. Golovanov, B.A. Isakhodjaev, V.D. Tsoy, R.I. Koneev teach at National and Technical Universities of Uzbekistan, supervise scientific works of master, bachelor and post-graduate students.

Weak collaboration with specialists from industrial scientific centers is a shortage of Uzbek IAGOD Group.

In October, 2007 according to the plan of scientific events approved by Cabinet of Ministers of the Republic of Uzbekistan the realization of International scientific - theoretical and practical conference: «State -of-the-art and problems of development of mineral-raw material base of noble, rare and non-ferrous metals of the Republic of Uzbekistan’ is planed to be hold. The Conference will be organized by the Institute of Mineral Resources of State Geology of the Republic of Uzbekistan. The First Circular will be distributed on May, 2007.
The Ukrainian National IAGOD Group

Effective January 2007, A. Bobrov has assumed the role of chairman of the Ukraine National Group. Contact details are: Alexander Bobrov, Department of Mineral Deposit Geology, Ukrainian State Geological Prospecting Institute, Avtozavodska str., 78, Kyiv 01114, Ukraine. E-mail: al_bobrov@rambler.ru

IAGOD

International Association on the Genesis of Ore Deposits

HONORARY LIFE MEMBERSHIP
in recognition of service to the international geoscience community and to IAGOD

DMITRY V. RUNDQVIST

Academician Rundqvist, the son of a mining engineer, was born August 10, 1930 in Leningrad (Saint Petersburg). In 1953, he graduated ‘cum laude’ from the St.-Petersburg Mining Institute as engineer-geologist. He went on to successfully defend his candidate thesis on the geology of tin deposits of the Far East of Russia, in 1958. Between 1958 and 1969, he carried out research in various regions of the USSR (Urals, Kazakhstan, Siberia, the Far East) and was awarded a of Ph.D. degree in geological-mineralogical sciences as a result of his work, and then the rank of Professor.

Between 1969 and 1984, he served as Deputy Research Director at the All-Union Research Geological Institute (VSEGEI), Saint Petersburg. He led scientific work to predict and evaluate mineral resources of the country. He was Editor-in-chief of a series of special geological maps, as well as the Atlas of Mineral Resources of the USSR. He was leader of the Program for study of COMECON mineral resources.

In 1981, he became Director of the Institute of Precambrian Geology (Saint-Petersburg) of the Russian Academy of Sciences, a position he held until 1993. In 1984, he was named a corresponding member of the Academy of Sciences of the USSR, and in 1990, an Academician of the Academy of Sciences of the USSR.

Between 1996 and 2003, he was a member of the Presidium of the Russian Academy of Sciences, the Head of the Department of Geology, Geophysics, Geochemistry and Mining Sciences (OGGGGN) of the Russian Academy of Science. He became the Editor-in-chief of the Journal "Bulletin of OGGGN of the Russian Academy of Science", the Deputy Editor-in-chief of the Journal "Geology of Ore Deposits", a member of Scientific Council on Space Studies, and Expert of the Ministry of Industry, Science and Technologies of the Russian Federation.

After leaving the Institute of Precambrian Geology in 1993, he became Director of the Vernadsky State Geological Museum of the Russian Academy of Science (Moscow), a position he held until 2003. He has served, since 1996, as Vice-president of Scientific Council on Exhibitions of the Russian Academy of Sciences, and as Chairman of the Museums Commission of the Geological Society of Russia since 1999.

From 2003 until now, he works as Adviser of Presidium of Russian Academy of Sciences, member of the Presidium of the Russian Academy of Sciences, Scientific leader of Vernadsky State Geological Museum, and as Scientific Leader of the Russian-French Metallogenic Laboratory.
Academician Rundqvist has received many honours during his long career. He has been President of the All-Russia Mineralogical Society since 1986, Vice-president of the Geological Society of Russia since 1998, an honorary Member of the All-Russia Mineralogical Society since 1999 and honorary member of the Geological Society of Russia since 2000. He is also an honorary member of the Italian Mineralogical Society and Academician of the Academy of Natural Sciences since 1996, Academician of the Academy of Mining Sciences since 1997 and Honoured Geologist of the Russian Federation since 1982.

He has also received numerous awards from the USSR and Russian Federation. These include a Medal "For Valorous Work" (1970), the Order "Sign of Honour" (1971), the Medal "For merits in Exploration of Deposits" (1982), the Supreme State Award of the country in the field of science and engineering - State Premium of the USSR (1983) the Order "For Merits before the Fatherland", IV level (1999) and ‘The supreme state award of the country in the field of science and engineering - State Premium of the Russian Federation’ (2000).

His achievements have also been on an international plane. Of particular note are his services as Vice-President of the International Association on Genesis of Ore Deposits (IAGOD) between 1990 and 1994, his service as Vice-President of the International Commission on Tectonics of Ore Deposits (CTOD), his Membership of the Nomination Committee of IAGOD (since 1993). He has served as a Member of Council of the International Mineralogical Association, as a Member of the Subcommittee on Metallogenic Maps of the World at UNESCO, and as Participant and co-leader of numerous international projects on geology and mineral resources in various countries of the world.

Academician Rundqvist has published over 350 scientific articles; he is editor or author of 40 monographs or special issues of geology, seismology and minerals. Part of these publications were published in international journals and publishing houses. He has worked on problems of minerageny, metasomatic alteration, granitoid magmatism and associated ore mineralization, the relationships between ore deposit types, metallogeny and prognosis for territories across the former Soviet Union. He has contributed to the understanding of the evolutionary trends of mineral formation during the history of the Earth. In the mid-1980’s, Precambrian metallogeny became the principal focus of his research. He has been particularly interested in the geochronology of ore-forming processes, the characterisation of large and superlarge deposits and processes of ore deposit rejuvenation.

As the Head of the Department, Academician Rundqvist has, in recent years, actively participated in the preparation of state documents on problems of the development of geological studies and the development of mineral resources. He has presented these materials to the Ministry of Natural Resources, Ministry of Industry, Science and Technologies of the Russian Federation, in Committees of the State Duma, at sessions of the Security Council, and personally to the President V.V. Putin (in August 2000).

D.V. Rundqvist carries out a large educational activity in the field of Earth sciences (geology, geography, oceanology, deep structure of the Earth), ecology, economy, computer technologies, popularization of latest world achievements in natural sciences and space studies, as well as in the field of the international cooperation.

In 2000, Academician Dmitry Rundqvist initiated a cooperation agreement between the French Geological Survey (BRGM) and the Russian Academy of Sciences in the field of Earth Sciences. Since then, 10 workshops and two international conferences have been organized jointly by SGM RAS and BRGM; two joint projects have been supported by French Ministry of International Affairs and NATO and numerous scientific papers and proceedings of international conferences have been published. The Russian-French Metallogenic Laboratory (RFML) has been established in Russia in 2004-2005. Due to the great efforts of Academician Rundqvist, RFML studies issues of prognosis for large and superlarge ore deposits, unifying metallogenic ideas of Russian geologists and advanced technologies developed by the French partners.

IAGOD salutes the great achievements of Academician Rundqvist during his long and highly productive career!

Nigel Cook, IAGOD Secretary General
Natural History Museum, University of Oslo

(with sincere thanks to N. Bortnikov and S. Cherkassov for additional biographic information)
Minutes of the IAGOD 2006 Council Meeting

22\textsuperscript{nd} August, 17.30 – 20.00, during the 12\textsuperscript{th} Quadrennial IAGOD Symposium, Moscow, Russia

Minutes noted by IAGOD Secretary General, Nigel Cook

Observers present: Sergei Cherkassov, Andor Lips, Elena Koltunova
Apologies for absence received prior to meeting from: O. Gerel, M. Rafailovich
Apologies for absence received after meeting from: Jingwen Mao, Jan Kutina

1. Call to order, roll call and acceptance of the proposed agenda. NC asked for an additional item to be added to the agenda: Selection of IAGOD Nomination Committee. NC stressed that there were a large number of items on the agenda, including some requiring considerable discussion, and asked attendees to avoid long speeches and present their arguments as concise as possible.

2. The IAGOD Secretary General (NC) read from a brief report for the period since the last IAGOD Council meeting (Florence, August 2004), stressing the various conferences and workshops held during the past two years, the new IAGOD publications and the fact that the IAGOD Newsletter is now only published online. The recent death of IAGOD Past President Eric Hammerbeck was announced.

3. The IAGOD Chief Treasurer (Thomas Seifert) made a statement on the status of IAGOD accounts and membership. Council approved payment of a sum of Euro 1,000.- to be paid to the organisers of the pre-symposium workshop run by the Ukrainian National Group as IAGOD support for their event; and a compensation of EURO 500.- to Manuela Wagner, Freiberg, for her work pertaining to handling all payments for the IAGOD Moscow meeting that ran through the Freiberg account. Council also approved EURO 950.- relating to expenses for post/fax and secretarial expenses incurred by the Freiberg Mining Academy on behalf of IAGOD. Referring to the Statutes and By-Laws, Council approved that IAGOD, through its Treasury, will retain the sum of EURO 10.- per participant at the Moscow symposium as association credit. Once the total number of registered (paid) participants is known, the remainder of conference income minus the association credit is to be transferred to Moscow so that the conference accounts can be closed.
Sergei Cherkassov, Executive Secretary of the Moscow symposium, will provide IAGOD Council with a summary of conference finances within two months of the council meeting.
Council approved the report \textit{conditionally}, subject to receipt of an updated version that incorporated the various syn- and post-Moscow items as approved above, and other recently approved payments.
Council agreed on a slightly modified fees structure for the national groups.
Council instructed the Treasury requiring members to pay membership dues for at least three to five years at a time as was common practice of the previous Treasury with the aim to limit administrative efforts and costs.
TS reported on the membership drive in 2005-2006, in which letters were sent out to 324 individual members (other membership is distributed mainly within National Groups).

4. The IAGOD Publications Manager (Reimar Seltmann) gave a report on the current status of the various publications (Ore Geology Reviews, Global Tectonics and Metallogeny, IAGOD Guidebook series, monographs, maps, etc.). Since begin 2003 the publication manager succeeds with major investment for launching new publications solely from book income and external sponsorship without any subsidy through the IAGOD Treasury. The reference guidebooks on Xinjiang (2003) and Mongolia (2005) got positive reviews and promotion through IAGOD-CERCAMS joint exhibition booths at major conferences (SEG Perth, SEG Keystone, SGA Beijing) made them real bestsellers.
RS informed that following earlier agreements, IAGOD produced a reference guidebook for the joint SEG-IAGOD excursion to mineral deposits of Mongolia related to the SGA Beijing meeting. The 30 copies of the Mongolia guidebook contributed by IAGOD to excursion participants and local guides brought, although forming integral part of the excursion fee collected by SGA and their LOC, a nil return due to the trip making a significant loss by various reasons and responsibilities currently disputed with SGA and their Beijing LOC.

A soft-bound new monograph on “Uranium of Mongolia” (Mironov, 2006) has just been published; two country volumes “Atlas of Mineral Deposits Types” are in preparation for Kyrgyzstan and for Uzbekistan. A new map and explanatory notes “Mineral Deposits of the Urals” (1 million scale, 2006) have been released.

Council approved IAGOD’s intention to acquire the rights to market and sell the Ukraine guidebook, which will be prepared for publication by the end of 2006, for release in 2007.

IAGOD will also acquire initially 200 copies of the Excursion Guidebook prepared for the Moscow meeting (@ approx. 10 Euro production cost per copy = 2000 Euro), as well as the right to sell copies of the CD-ROM containing the conference proceedings. The IAGOD Publication Manager got a mandate to enter into negotiations with the publishers in Moscow and Kiev and Council approved to finance the book acquisition through IAGOD.

5. No reports were received from the other council members present at the meeting.

6. Editor-in-Chief Nigel Cook gave a brief report for the society journal ‘Ore Geology Reviews’, supplementing the report published in the 2004-2005 IAGOD Newsletter. The report stresses the good flow of incoming manuscripts and published papers, the hard work of the editorial team, and the number of ongoing special issue projects. Concern is expressed, however, over the continued difficulty in finding a mechanism by which the journal could be made available to interested members.

7. NC informed about the nomination, citation and adoption of new Honorary Life Member of IAGOD, Acad. D. Rundqvist, to be made at the General Assembly. N. Bortnikov requested some modifications to be made to the laudatio to reflect the scientific activity of the recipient. The revised laudatio shall be published on the IAGOD website and in the forthcoming IAGOD e-Newsletter.

8. Council approved the appointment of two new ex-officio members of council: Sergei Cherkasov and Andor Lips. Council appreciated their interest to become involved with running the association. Council also took the opportunity to thank Sergei Cherkasov for his hard work in organising the 12th Quadrennial Symposium.

9. Presentation/Discussion on the current status of the IAGOD Commissions, Working Groups and National Groups. Since no depositions were received prior to the council meeting, it was decided to postpone these discussions to the General Assembly. NC stressed it was critical that mission statements were prepared by the two largest IAGOD national groups (Russia and China).

10. a. Council approved the decision that IAGOD would propose a Symposium at the 2008 International Geological Congress in Oslo, Norway, with the title ‘Mineral Deposits of Eurasia’. This should be an excellent window for IAGOD to profile itself to the larger community, and a good opportunity for Russian ore geologists and organisations to present their latest results. Contact persons will be Sergei Cherkasov and Reimar Seltmann. Other persons will be co-opted as session convenors as necessary. NC will inform the IGC organisers of this decision in September.

b. A proposal to hold the 13th IAGOD Quadrennial Symposium (May 2010) in Adelaide, Australia, was made by Ian Graham (Appendix F). The bid included broad details of venue, period, available accommodation, field excursions and likely industrial and institutional sponsorship. The bid was unanimously and enthusiastically accepted by council. The possibility of risks or issues was excluded by the presenter. Ian Graham was asked to provide details of a nucleus of a local organising committee during the remainder of 2006 and to continue to make contact with potential co-sponsors. Council agreed that preparations for a successful meeting should begin as soon as possible to ensure immediately. Council were concerned that as many students as possible would be able to attend and sponsorship should be largely directed towards this.
c. Concerning future IAGOD workshops/ field excursions, Reimar Seltmann informed about the possibility to hold a workshop in Urumqi, NW China in September 2007. Nigel Cook informed about plans for IGCP-486 field workshops planned to be held during 2007/8 (southern Finland, Colorado - in conjunction with the Fall 2007 GSA meeting; northern Peru), to which IAGOD support and logo could easily be added.

*Note: After the meeting, several other options for IAGOD-sponsored activities were communicated to the council. These include a 2-weeks across the borders expert field trip to mineral deposits of the Russian and Mongolian Altai (late August – begin September 2007), an excursion to mineral deposits of Inner Mongolia (likely also in September 2007, possibly connected to the Urumqi meeting), and a SEG-cosponsored conference celebrating the anniversary of gold rush in the Magadan region (2008).

d. The journal ‘Global Tectonics and Metallogeny’. The IAGOD Publication Manager reported on his recent communications with the Editor (Jan Kutina) and Publisher (Schweizerbart) concerning a future strategy for the journal, which although not an official IAGOD journal, is published under the auspices of the IAGOD Commission on Tectonics of Ore Deposits (CTOD). Sergei Cherkasov and Andor Lips were asked if they would be interested in becoming involved in the journal in the future and both indicated interest. Since Jan Kutina was not present at the council meeting, despite being invited, it was decided to adjourn discussion on the matter until the General Assembly.

e. Forthcoming IAGOD publications were briefly discussed. These would include the Ukraine guidebook and volumes to accompany the Altay excursion and possibly the Urumqi workshop.

11. A discussion on various aspects of IAGOD’s future was held, in which council addressed the problems of declining membership numbers and how to best encouraging participation by younger scientists (see also Minutes of IAGOD General Assembly). Council also sees an urgent need to revitalisation and to reform several of the national groups and working groups / commissions (see minutes of IAGOD General Assembly).

12. IAGOD Nomination Committee: These persons would nominate candidates for election to council for the period 2008-2012. Elections will take place at the next General Assembly meeting held during the IGC in Oslo (2008). M. Stemprok and D. Sinclair were proposed to sit on the IAGOD nomination committee. A third member of the committee, preferably from Russia, would be named in the General Assembly (who approved N. Eremin).

13. IAGOD’s external relationships were briefly discussed. Although having led the ore geology interest to participate in International Year of Planet earth (IYPE), the association is not currently involved in any concrete planning. International Union of Geological Sciences (IUGS) have enthusiastically approved our activity in recent years and we have good relationships with Society of Economic Geologists (SEG), largely achieved by R. Seltmann who sits on SEG Council (2004-2006). The current poor state of relationships with the Society of Geology Applied to Mineral Deposits (SGA) was briefly discussed, referring to written correspondences and consultations within council on the ongoing dispute with SGA. Council expressed a wish that outstanding matters can be resolved in IAGOD’s interest, and reiterated their hope that SGA would move to address the issues in the near future. Because of closure of the venue, the discussion was interrupted and it was suggested to continue elsewhere during the next days.

14. Any other business:

Considering the number of potential IAGOD events in the future, council decided it would be sensible to send out details of available travel support, with rules and limitations (ideally to be published in the 2006 e-Newsletter). Such document was prepared by Council in 2000-2002 as funding guideline to which previous Executive Council had always followed.

During the meeting, Sergei Cherkasov had provided some background information on the organisation of the Moscow meeting.

Nigel J. Cook, IAGOD Secretary General

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Minutes of the IAGOD General Assembly held on 23rd August 2006 during the 12th Quadrennial IAGOD Symposium, Moscow, Russia

1. Opening: The agenda followed closely the topics discussed and prepared by the IAGOD Council at its meeting the day before. Thus, the reports will not be repeated in these Minutes and only related discussion and additional aspects to be reported. The General Assembly was attended by about 55 participants. Nigel Cook called to order, and made roll call on acceptance of the proposed agenda. Prof. Steve Scott enquired, as an additional topic, on the reasons for the absence of leading SGA Councillors who were announced in the program as Session Conveners of the SGA-sponsored session on black-shale related mineralization. Nigel Cook explained the situation from IAGOD’s perspective that both conveners had, as a result of the latest developments in SGA-IAGOD relationships, felt they had to cancel their attendance instead of following IAGOD’s request to seek a resolution. IAGOD Treasury had followed their request to fully reimburse them the registration fees and there was no ban regardless that this is the view then echoed by SGA. Neither IAGOD Local OrgCom nor its Secretary General received information that SGA withdraw from sponsorship of the Moscow meeting and this information became known only after the meeting had started when all documents were printed. The response was appreciated and this discussion closed, returning to the accepted agenda.

2. The SG Nigel Cook gave a report for the 2-years period since last General Assembly that took place at the IGC in Florence, August 2004. Approved.

3. Treasury Report: Participants were encouraged to use the symposium to get their fees payment up-to date. It was informed on the status of National Groups and their dues. The Chinese group announced their payment to come soon after an invoice is received from Treasury.

4. Publications Manager Report: It was proposed to launch PPT presentations from IAGOD meetings on CD-ROM. After discussion the proposal was rejected with the aim to protect IPR of authors and to continue to allow at conferences to present unpublished novel materials without the risk of illegal copying of unprotected data and know-how loss prior to its publication.

5. National Groups: The Chinese NG reported on their activities that will be part of their written report for the next IAGOD Newsletter. At a meeting of the NG in November 2006 the activities for 2007 will be confirmed. Among the proposals are invitations to IAGOD for an excursion to mineral deposits of Inner Mongolia in August 2007 and a workshop in Xinjiang in September 2007. Because of the changes in Chinese society, the group pledges for individual membership because of their independent role as researchers and development of salaries now to afford the dues. It was agreed that the leaders of the group will continue to collect dues but now from the individual members. The Russian NG reported on the changes in its structure and appreciated the efforts of Ingo Kigai who organized over the years the work of the Russian NG. New chairman is Academician Nick Bortnikov and Secretary Dr Aleshin. Because of financial difficulties the group had only small meetings in Karelia, Moscow and Novosibirsk.

6. Working Groups/Commissions: Jan Kutina gave a report on CTOD, its future plans and informs on the various ongoing activities (including IGCP-354) and a follow-up IGCP proposal. Thomas Seifert proposes for WGTT to organize in 2007 an activity in Freiberg. DV Rundqvist suggests publication on Erzgebirge as a reference SnW province. MaoJingwen proposes an excursion to South China.

7. Ore Geology Reviews: Nigel Cook reads the report as the chief editor.

8. Honorary Life Membership: a laudation is read for Academician Dmitry V Rundqvist making him an HLM of IAGOD. Prof Runqvist gives a speech in response and appreciates the honour.

9. The 13th IAGOD Symposium: Ian Graham presents the bid of the symposium to be held in Spring 2010 in Adelaide / Australia on “Innovation in ore deposits research”. The bid finds approval.

10. IGC in Oslo 2008: IAGOD activities will include proposed sessions on Mineral Potential of the former Soviet Union (S Cherkasov and R Seltmann as contact persons), on the Arctic and on Economic mineralogy of Se-Te (Nigel Cook).

11 Other meeting activities: Thomas Seifert proposes a conference on the Freiberg Ag and base metal deposits in the Erzgebirge. Mao Jingwen suggests a field excursion to Hohot region / Inner Mongolia in August 2007. Reimar Seltmann proposes to coordinate that with another workshop in Urumqi and excursion
to Dzhungar planned for September. Nigel Cook informs on activities in Tampere (Sept. 2007) and at GSA Denver (Nov. 2007).

13 Global Tectonics and Metallogeny (GTM) journal, Schweizerbart Publishing House: Jan Kutina informs on the status of his editing efforts and that Vol. 8, Nos. 1-4 (2003) has been dispatched to the publisher. He informs that he decided to carry on with the journal as chief editor because of obligations to edit collected papers and to continue to publish them in some pending issues. However he plans to invite younger colleagues in the future to edit some special issues. If that is not acceptable to Schweizerbart and they would discontinue then he will seek alternative publishers elsewhere.

14 Nomination Committee: Nikolay Eremin, Miroslav Stemprok and David Sinclair were proposed and confirmed to chair the NC for new council to be elected at IGC in Oslo in 2008. They invite proposals and seek volunteers for council work.

15 Education initiative: Ricardo Castroviejo stresses the role of geosciences and to pay more attention to geology education of pupils and training of young researchers. There is a need in general textbooks and he proposes to put materials as PPT etc on a website. Tony Naldrett objects to make PPT publication mandatory. He refers to the textbook of L Robb as good example. Oscar Thalhammer addresses the education system in EU and encourages to lobby changes towards improvement in poor attention that geoscience has currently. Nigel Cook proposes to combine these ideas in a WG. Further speakers include N Bortnikov and others, S Scott proposes educational workshops and excursions and T Naldrett highlights support for young scientists received from industry for field trip and training.

Nigel Cook, Secretary General

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**Commission on Tectonics of Ore Deposits (CTOD)**

**WG1 ‘Global Tectonics and Metallogeny’**

**The role of mantle-rooted structures in the control of giant ore deposits of endogenic origin and strong destructive earthquakes**

Short title: “Ore Deposits and Earthquakes”

This is an extended version of a new project proposal by the CTOD WG1 ‘Global Tectonics and Metallogeny’. The first version, co-authored with Prof. Angela Craciun, President of the Organisation Mondiale de Mineralogie, has been presented at the 12th IAGOD Symposium in Moscow in August 2006.

**Purpose of the project**

To elaborate a new way of defining structural intersections vulnerable to strong and destructive earthquakes by using experience from the role of mantle-rooted structures controlling the formation of giant ore deposits.

**Background information**

The research conducted by the IAGOD Commission on Tectonics of Ore Deposits (CTOD) and its WG1 ‘Global Tectonics and Metallogeny’ has demonstrated that mantle-rooted structures played an important role in the genesis and distribution of giant ore deposits of endogenic origin in different geotectonic environments (reviewed in Kutina, Pei & Heyl, 2003). In all these environments there occurred not only major concentrations of metals but also strong earthquakes. A question arises: Are there similarities in the controls of these two groups of events? If they are, can our experience with the control of ore deposits, generated on six continents, help to identify structural intersections vulnerable to new earthquakes? The following examples illustrate the importance of such studies:

**Initial observations**

*Example from NE China*
Several strong earthquakes occurred in NE China within an east-west belt close to 40° N latitude. The Tangshan earthquake of July 1976, with focus at a depth about 10 km, occurred on a mantle-rooted structure, identified by aftershocks down to a depth of over 120 km. The death toll of this earthquake as given by NEIS (Natl. Earthquake Information Center, USGS, Boulder, Colorado), was over 600,000 people.

Within the same latitudinal belt in NE China there occurred another, still more destructive earthquake. Quoting Press & Siever (1986): “In February 1975 an earthquake was predicted 5 hours before it occurred near Haicheng in northeast China. Several millions people, prepared in advance by a public education campaign, evacuated their homes and factories in the hours before the shock. Although many towns and villages were totally destroyed, only a few hundreds lives were lost …”

A recent paper by Kutina, Cui, Pei & Jiang (2006) presents criteria indicating that the latitudinal belt in which destructive earthquakes occurred in northeast China, continues across the Korean Peninsula between latitudes 39° and 40° N. A question arises: Can major earthquakes occur along this eastern extension of the belt in North Korea?

Example from the Carpathian orogen in Romania

The seismic area of Vrancea in Romania occurs in places where the Carpathian orogen bends from east-west to northwest along the major NW-trending boundary of the East European Platform (the Tornqvist-Teyssseire Zone – TTZ). The structure at which the Vrancea seismic events repeatedly occur is mantle-rooted, the intermediate-depth foci documented by a 3-D magnetotelluric tomography between depths of 100 and 150 km (Stanica et al., 2004).

In southern Poland, it was also in front of the TTZ where major hydrothermal activity occurred, concentrating the giant zinc-lead deposits of the Upper Silesian-Cracovian area in the Middle Triassic rocks (Kutina 1974/1976; Haranczyk, 1994, 1998; Teper 1998, 2006). The origin of these deposits is apparently related to fracture pattern in the Paleozoic crystalline basement providing pathways for the ascent of hydrothermal solutions into the overlying Triassic rocks (Teper, 2006, with references).

The Salt Lake City area in the state of Utah, U.S.A with a giant concentration of metals in a cluster of major ore deposits (Bingham Canyon, Tintic, Park City, Mercur and other), developed in an area where an east-west trending mantle-rooted structural discontinuity (reflected in the contours of Pn velocities) intersects with the essentially north-south trending Intermountain Seismic Belt. Why no strong earthquakes endanger the nearby Salt Lake City?

Comparison – differences.

1. All the above three examples are related to mantle-rooted structures, along which seismic energy could be transferred towards the earth surface, as well as heat, magma and ore-forming fluids.
2. Preliminary examination of the geological map covering the Tangshan area in NE China does not show major magmatic bodies which could have sealed the mantle-rooted pathways by intrusive rocks, apparently leaving them vulnerable to new seismicity.
3. Neither the mantle-rooted structures of Vrancea are sealed by intrusives. The Romanian scientists are now explaining Vrancea as occurring at an unstable triple junction of three major faults (Besuti & Zugravescu, 2002).
4. Unlike the previous two cases, the Salt Lake City area hosts major ore deposits and ore districts associated with igneous activity. The reconstruction of Bingham Canyon/ Barneys Canyon area during the emplacement of the Cu-Au-Mo deposit at 37 million years ago which was connected with volcanic activity (Cunningham et al., 2004) would be difficult to imagine without earthquakes. Also other criteria, e.g. the displacements along faults, zones of brecciation and other indicate past earthquakes. The processes giving rise to the whole cluster of Salt Lake City area deposits may have sealed the import channels guiding the heat, magma and hydrothermal fluids into the upper crust, preventing the present Salt Lake City area from a danger of a recent catastrophic earthquake.

Tentative interpretations to be checked by the project:

Mantle-rooted structures represent pathways favorable for the transfer of seismic energy, as well as of heat, magma and ore-forming fluids towards the Earth’s surface. The intersections of the mantle-rooted pathways with structures of other trends may become preferential places for the release of seismic energy by
earthquakes, or, in connection with lithology and geochemical parameters, become favorable loci for concentration of metals.

Such structural intersections may host just the earthquakes or just the ore deposits, or both of them, or remain “empty”. All these types can occur within the same belt or region and can be later complicated by superimposed stages of seismicity, magmatism or mineralization.

The defining of intersections of mantle-rooted structures which have not been “sealed” by intrusive rocks and remain vulnerable to major earthquakes is extremely important. The experience shows that a slight change in the direction of plate movements can change the stress field in the continental area and, as a consequence of that, a structural intersection which was not protected by intrusives may become, under the changed stress distribution, a place where new earthquake can occur. An example is described in Kutina et al., 2006.

This study may provide warnings to important installations if they appear to be located in areas vulnerable to strong earthquakes. The increasing number of nuclear power plants, recently reported by Newton et al., 2006 *) deserves to be checked with regard to the safety of their location. The experience from the Chernobyl disaster, although not caused by an earthquake, shows that the wind can transport the radioactive isotopes far away from the nuclear reactor, such as to northern Sweden from the reactor located in the Ukraine.

* The latest “Nuclear Power Update” by Newton et al. (2006) refers to 441 nuclear power plants operating in 30 countries around the world, of which 103 are in the United States, 59 in France, 55 in Japan, 31 in Russian Federation, 23 in United Kingdom, 20 in South Korea, 18 in Canada, 17 Germany, 16 in China, 15 in India, 15 in Ukraine, 10 in Sweden, the remaining countries each with less than 10..

**Recommendation**

It is proposed to develop cooperation with seismologists and use our experience from the previous projects in a systematic geodynamic study of the controls of major ore deposits and strong earthquakes. It is suggested to use for a case study, the broad latitudinal belt of Mesozoic and Cenozoic events in the southern parts of Eurasian Plate. It means, from the Alpine and Carpathian systems on the west and the Yinshan-Tianshan EW belt of China on the east, with possible eastward extension across Korean Peninsula and the basement of the Japan Sea. The study should be done in the context of the interaction with the African and Arabian plates on the South, and the basement structures of the central and northern parts of the Eurasian plate on the North. The results should be compared with the experience from other parts of the world.

Participation of colleagues in different parts of the broad belt on the south of the Eurasian Plate should be developed and areas for special studies defined (referred to as project stations, such as the “Carpathian Station”, “Central Asian Station in Tashkent”, “Armenian Station”, etc, each with a special task.

The undersigned, in cooperation with Prof. Angela Craciun, President of the Organisation Mondiale de Mineralogie (OMM) will try to arrange for a meeting in 2007 to discuss and develop cooperation on the above topic.

**Example of some of the proposed ‘Project Stations’** – preliminary proposal prepared by the undersigned, subject to approval or modification by the respective scientists.

1. **Carpathian Station** Professor Dorel Zugravescu, Director of the Institute of Geodynamics, Romanian Academy, Bucharest, is chairing a major program in geodynamics. Under this program he investigates, with a team of co-workers, the transfer of seismic energy from the Black Sea region and from northern parts of Africa into the Vrancea seismic zone in Romania. Changes in regional stress distribution are monitored by a seismic station (e.g., Besutiu L. & Zugravescu D., 2002, and, Zugravescu D. & Damian A. 1999). This study is of primary importance for the project. Prof. Zugravescu and his colleagues are invited to participate and asked to send comments and recommendations. Dr.I. Berbeleac has done extensive studies of structural geology and metallogeny of Romania (e.g., I. Berbeleac, 2003). It would be of special interest if he can define pre-historical earthquakes in the structure of Romania, and try to derive their trends in space and time. A cooperation with Romanian scientists has been established.

2. **Armenian Station.** Professor K.M. Mouradian of the Institute of Geological Sciences, National Academy of Sciences in Yerevan, Armenia, is the author of a major monograph “Metallogeny of Volcanogenous Formations of Minor Caucasus” (1994, in Russian). He participated in the first workshop
of the IGCP-354 held in Washington in 1995, and is invited to participate in the project. It would be of special interest if Dr. Mouradian investigates possible role of major basement structures in structural evolution and earthquakes distribution in Armenia – a topic partially touched by J. Kutina in unpubl. reports.


Cooperation by J. Kutina on the following topics is offered:
(1) Setting of the major latitudinal structure that extends at a latitude close to 35° N across nearly the whole Afghanistan, in the context of major latitudinal structures of Eurasia. With special reference to Iran, Pakistan and China. Investigating major structural intersections, metallogeny and earthquake distribution.
(2) Investigation of parameters controlling concentration of gold in the north of Afghanistan, extending the following unpublished report:
Jan Kutina: The gold potential of Darwaz and Badakshan, northern Afghanistan, examined in the context of deep-seated regional structures”. USGS Unpubl. Report, April 2006

4. Chinese Station in Beijing. Close cooperation has been established with members of several institutes of the Chinese Academy of Geological Sciences in Beijing, especially with the Institute of Mineral Resources, Institute of Geology, and Institute of Geomechanics. The 3-dimensional space-time study by Cui et al.(2002), presented in the monograph “Mesozoic and Cenozoic Intracontinental Orogenesis of Yanshan area, China”, also by Cui & Wu (1997) and Cui et al. (2006), has been performed in a region of about 750 x 400 km. The study has revealed that the orogenic processes in the Mesozoic and Cenozoic took place on a consolidated basement, and that fracture patterns of different orientation are preferentially dominant at different depths. Due to tectonic reactivation of fractures, the uppermost crust reveals combination of different fracture sets. Among them the latitudinal fractures are well expressed.

The above conclusion on an orogenesis proceeding on a consolidated basement is extremely important. It may initiate special studies in different parts of the globe. It may encourage studies of a number of questions which, at the first sight, may be considered as controversial and discourage people from analyzing them. Let us give a few examples:

1. Can a N-S trending deep-seated structure of Eurasia, documented for hundreds of kilometers, extend through the basement of the Caucasus and control, due to upward propagation, major earthquakes and possibly other phenomena?

2. Does the mosaic of major basins and uplifts in the eastern part of the United States reflect a block structure of the Precambrian basement as interpreted by Kutina & Norton, 1978?

Close cooperation with Chinese scientists, extending the studies on the IGCP-354 chaired by Academician Rongfu Pei, provides an excellent opportunity to analyze and discuss basic questions of the controls of giant metal concentrations and earthquakes.

5. Central Asian Station in Tashkent

The Uzbek geologists, comparing the location of major ore deposits with the distribution of strong earthquakes, have discovered a certain antagonism between the two (Khamrabaev et al., 1988, 1999).

The later participation of Uzbek geologists, geophysicists and geochemists in the IGCP-354 “Economic Superaccumulations of Metals in the Lithosphere”, which was supported by a generous grant from the Uzbek national institutions, has resulted in a major report describing the role of deep lithospheric structure in the genesis of large and superlarge deposits of Uzbekistan. Under this study a major metal concentration, including the superlarge gold deposit of Muruntau, has been defined in the area of intersection of major structural lineaments in the Central Kyzylkum Desert in western Uzbekistan. The above basic studies are now extended, in particular by statistical studies by Academician F.A. Usmanov, and by a study of geoblocks of the lithosphere and their connection with oil-gas and ore formations in Central Asia by Drs. I.P. Sidorova and O.P. Mordvintsev. The death of Acad. Khamrabaev was a major loss to science, but his followers, supported by Dr. Bakhtiar Nurtaev, Director of Research in the
Institute of Geology and Geophysics of the Uzbek Academy of Sciences are extending the studies and are cordially invited to join the new project.

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Report of the IAGOD Working Group on Tin and Tungsten Deposits (WGTT) for 2006

A Special Session on “Endogenic Metallogeny of Rare Elements: issues for prognosis, prospecting and exploration” was held at the 12th Quadrennial IAGOD Symposium in Moscow, Russia, August 2006. The session was co-chaired by Drs. Alex Kremenetsky (Russian Academy of Sciences), Thomas Seifert (University of Freiberg), and Dave Lentz (University of New Brunswick). With 8 talks and 32 posters scheduled, there was considerable diversity of systems described and engaging discussion of many of the presentations. Although less popular as a research topic in western scientific circles in recent years, the Russian scientific community has embraced these research areas and dominated the session’s content with some interesting scientific perspectives, although scientists from Canada, Germany, India, Indonesia, Kazakhstan, Norway, Poland, South Korea, Spain, Turkey, Uzbekistan, UK, and USA also participated. Controversies on the relative significance of magmatic fractionation versus magmatic hydrothermal dominance on elemental enrichment were a common theme to many of the various types of magmatic hydrothermal systems presented (subalkaline, alkaline, peralkaline, to carbonatitic magmatism), but there was also much more than this that helped round out the program. It was very good to see some student research involvement as well. There was standing room only for much of this ½ day oral session, the popularity of which was very much due to the organizational efforts of Drs. Alex Kremenetsky (RAS), David Sinclair (GSC), and Reimar Seltmann (Natural History Museum, London).

WGTT members continued to contribute to a compilation of global tin and tungsten deposits. A digital database is scheduled for completion in 2007 and will be made available over the Internet by the Geological Survey of Canada as part of its Geoscience Database Repository (for more information about the current availability of mineral deposit databases, see the GDR page at http://gdr.nrcan.gc.ca/minres/data_e.php ). In conjunction with the database, a map showing world distribution of tin and tungsten deposits is also being prepared for publication.

At the IAGOD General Assembly in Moscow, August 2006, Thomas Seifert, Mao Jingwen and Dmitry Rundqvist proposed to organize in the future field excursions and workshops in Inner Mongolia, South China and Erzgebirge as well as reference monographs on the Freiberg mining district and on tungsten deposits of the Erzgebirge.

Report compiled by Dave Sinclair (WGTT Chairman), Reimar Seltmann (WGTT Vice Chairman) and Dave Lentz (Session Co-convener at IAGOD symposium in Moscow)

IAGOD Commission on Placer Deposits (COPD)

Chairman - academician Nikolay A. Shilo, Russian Academy of Sciences, Moscow, Russia. phone. of.: (007-095) 230-8427, phone. home: (095) 959-059. fax: (007-095) 230-2179

Vice-Chairman – Dr. Jan Krasson, Geoexplorers International Inc. 5701 East Avenue, Denver, Colorado
Meetings and Conferences 2006:

(1) The Session (Symposium) WG1 “Placers and placer-forming ore formations” in the framework of 12-th Quadrennial IAGOD Symposium 2006 (22 August 2006, Moscow). The session included 8 oral and 15 poster presentations and gathered about 60 participants from Russia, India, Canada, Australia, China, Germany, Kuwait, Egypt, etc. The work of the session hold in close cooperation of COPD with the project IGCP-514 “Fluvial Palaeo-systems: Evolution and Mineral Deposits” (separate session). Extended abstracts of the symposium were published on CD.

After the conference some of participants took part in the field “Diamond Placer Deposits of the Western Urals, the Krasnovishersk District”.

(2) All-Russian Conference (Workshop): “Heavy minerals placer deposits in Russia and prospects for their development”, Moscow, 13-14 November 2006; was organized by Russian members of CPD. The Workshop took place in the Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry (IGEM RAS) and gathered about 65 participants from scientific institutes of Academy of Science, Geological Survey and private mining companies. 28 oral and about 30 poster presentations were presented. The proceedings of the Workshop are published.

Other activities:

COPD members had active participation in following actions:

(a) Australian Earth Science Convention (AESC2006), Australia, Melbourne, July 2 – 6, 2006 (Extended abstracts of CD).


(c) The 4-th All-Russian Lithological Congress, 7-9 November 2006, Moscow, Russia. Organizer: Geological Institute of RAS. More that 400 participants had about 100 oral and 200 poster presentations; 14 of them were dedicated to placer deposits. Two volumes of extended abstracts, 700 pages were published.

Field researches of various types of placer deposits in collaboration of CPD members had place in Yukon Territory (Canada), East Siberia (Russia) and Republic of Congo (Zaire) (gold placers), South-East China (uranium), South Africa, Urals and Namibia (diamond placers), Germany (cassiterite+rutile placers), Australia, India, Poland, West Siberia and Caucasus (heavy mineral placers).

Some publications-2006:

Monographs:


Specials Issues:


Chapters in monographs:

References of some recent publications of Russian members of the Working Group on Thermodynamics of Natural Ore-Forming Fluids:


Akinfiev N., Tagirov B., 2006. The role of selenium in hydrothermal transport of Au, Ag, and Cu: quantum chemical and thermodynamic evaluation. Short abstracts of the 12th Quadrennial IAGOD Symposium, Moscow, Russia, August, 104.


Kovalenker V., Prokof'ev V., Akinfiev N., 2006. The gold-telluride mineralization of the Megradzor gold deposit (Armenia): fluid inclusions study and the thermodynamic modeling. Understanding the genesis of ore deposits to meet the demands of the 21st century. 12th Quadrennial IAGOD Symposium, Moscow, Russia, August.


Contributed by Prof. Nikolay Akinfiev


A. Publications of the Working Group in the Proceedings of the IAGOD Moscow conference 2006:
1. METALLOGENY OF ENDODYNAMIC ANOMALIES: IDENTIFICATION THROUGH REMOTE SENSING AND OTHER METHODS. Antipov V.S.
2. POST-SATELLITE ASSESSMENT OF ORE-PROMISING TERRITORIES. Antipov V.S.
4. LARGE-DEPOSIT PROGNOSIS USING REMOTE SENSING PROSPECTING MODELS. Pertsov A.V., Galperov G.V., Zhuravlev E.A.
6. EXPERT FORECASTING MODEL FOR SULFIDE COPPER-NICKEL-PLATINUM ORES OF MONCHEGORSK AREA, KOLA PENINSULA, RUSSIA. Turchenko S.I., Vostroknutov E.P., Brusnichkina N.A.
7. THE MOST IMPORTANT WOLLASTONITE DEPOSITS OF RUSSIA: MORPHOLOGY-GENETIC ASPECTS. Turchenko S.I.

B. Publications in Russian geological journals:

C. Book:
Expert System "Genesis": Presentation of knowledge for decision tasks of natural resources. Authors: Akimtsev V.A.(IGM Siberian Branch RAS), Brusnichkina N.A.(NIKIAM), Vostroknutov E.P.(NIKIAM), Galperov G.V. m (NIKIAM), Pertsov A.V. m (NIKIAM), Ponomarev V.G.( IGM Siberian Branch RAS), Rafailovich M.S. (INR YuGGEO), Turchenko S.I. m (IGGP RAS), Shubina M.A. (NIKIAM).

Dr A. Pertsov, Chairman, CTOD WG-5
S. Turchenko, Secretary WG5 CTOD

A. Publications of members IAGOD


S. Turchenko, E. Vostroknoutov, N. Brusnichkina, S. Cherkasov. Integration of GIS and remote sensing data attached to using of expert system for decision of natural resources tasks (prognouse of PGE-bearing and dangerous by karst objekts). II Intern. Conf. GIS in Geology, Queretaro, Mexico, 2007, 22-26 October.CD.

This Data of remote sensing methods, geological observations, archive data that are keep in GIS and data banks different levels at last time are called for decision of varied natural resources tasks. GIS often use only for collection and visualization of information but for complex decision of natural resources tasks it is demand an innovation instrument which are used GIS-technology and banks of analytical data contemporary. Such method gives visual presentation about coming out results.

Very clear this it is observed at example of geological search and prognoses works. For each region it are keeps much information – geological maps, results of geological and geophysical researches, isotope-geochemical data and etc. It is really concentrate all essential data for any region of research in digital form accessible for GIS. However this position cannot change real situation so for decision any geologic-prognoses mission it will necessary specialists – geologists and experts by GIC application. Although work materials can be accessible in digital form, however application only GIS cannot give help in decision of actually prognoses mission.

Other example – necessity of carrying out division into district for constructions in karst dangerous regions where all data are collected in GIS forms (geologic data of district, result of deciphering aero- and space images, classification of karst forms and etc.). This task it is present significantly more simple than previous but using some one from available methodic division into district do not lead to success. The difficulties in application of GIS in decision of tasks for natural resources are complexity and unique of natural objects that do not allow elaborate a common algorithm. Different mathematic methods (probability-statistic, methods recognize of images, neuron nets) could help in this situation. We propose apply methods artificial intelligence and expert system (ES). These methods give mathematic basis for computer realization for tasks that decision it is need to process of a “knowledge” but no simply GIS information and database.

On the base of ES it is possible to construct a draft of decision natural resources tasks consisting from three stages:
1) Analysis and scientific reasons of delivered task together with consideration of processes occurring within natural object. Revealing of law-governed nature these processes and singling out its indications. 2) Selection minimal set of features processed by GIS and next elaborates of expert procedure on the base these signs. 3) Construction of ES with that help is possible decision delivering task in automatic regime. These thesis devote of application ES for decision some natural resources tasks. The stage of analyses and grounds the decision is analysis of geological knowledge for PGE deposits in riftogenic structures and karst-dangerous districts for technical constructions. The stage of ES construction is developed on the base of Genesis3 program, which can be presented colleagues of this conference as product our research of Earth objects.

Methods of GIS-technology for structural-geological investigation of riftogenic territories are based on remote sensing materials different spectral diapasons, gravic and magnetic data that allow revealing of special features construction this territories and position within its mafic-ultramafic PGE-bearing objects. Such investigations gave possibilities reveal geodynamic nature of PGE-bearing objects and produce prognoses these deposits in result GIS analysis aero-space information, geological, geophysical and petrology-geochemical data together with processing its by expert system.

The problem of carrying out division into district for constructions in karst dangerous regions connects with processes of dissolving and action of alkaline waters by surface and ground streams on carbonate and gyps bearing rocks that are main reason of origin and development karst phenomenon. Valuing karst dangerous for example in Bsyb carbonate massif of Abkhaziay were made with determinate of thickness and deepness occurrence of soluble rocks, genesis and morphometric features of relief and hydrogeological parameters. These data have been received in result processing of GIS data, topographic-geodesic, landscape, hydrochemical, ingenemic-geological, geophysical and remote sensing materials. Such data then were valued for karst dangerous with help of expert system.

So, it was made attempt of integration of geologic-geophysical GIS data and remote sensing materials with help of mathematic methods of expert system for decision natural resources missions.

Secretary WG5 CTOD
Prof. S. Turchenko
NEW! International Uranium Group of IAGOD


Main results in 2007:
1) International Uranium Group IAGOD has been created after Yuri MIRONOV’ initiative; Michel CUNEY (CREGU, Nancy, France) has been appointed Chairman, Yuri MIRONOV (VSEGEI, Saint-Petersburg, Russia) – Co-Chairman, founder and Executive Secretary, Vladimir LOBAEV (VSEGEI, Saint-Petersburg, Russia) – Secretary;
2) IUG IAGOD starts to recruit new members within the Russian IAGOD group during the conference in memory of Fedor Wolfson (IGEM RAS, Moscow, 21 – 22 November, 2007). Alexey ALESHIN (IGEM RAS, Moscow, Russia), Vasily VELICHKIN (IGEM RAS, Moscow, Russia), Elena AFANASIEVA (VSEGEI, Saint-Petersburg, Russia) joined into the IUG members.
3) For the moment there are 9 (nine) members of IUG IAGOD:
- Michel CUNEY (CREGU, Nancy, France) – Michel.Cuney@g2r.uhp-nancy.fr;
- Yuri MIRONOV (VSEGEI, Saint-Petersburg, Russia) – ogumr@vsegei.ru;
- Vladimir LOBAEV (VSEGEI, Saint-Petersburg, Russia) – Vladimir.Lobaev@vsegei.ru;
- Alexey ALESHIN (IGEM RAS, Moscow, Russia) – aleshin@igem.ru;
- Vasily VELICHKIN (IGEM RAS, Moscow, Russia) – vel@igem.ru;
- Elena AFANASIEVA (VSEGEI, Saint-Petersburg, Russia) – Elena_Afanasieva@vsegei.ru;
- Vladimir DOLGOPOLOV (Almaty, Kazakhstan)
- Alla DOLGOPOLOVA (CERCAMS NHM, London, UK)
- Reimar SELTMANN (CERCAMS NHM, London, UK)

Future activities (2008 and beyond):
1) IUG officers will recruit new uranium members in Russia and abroad.
2) IUG will participate in the Joint Annual Meeting GAC-MAC-SEG-SGA (Quebec, Canada, May 26 – 28, 2008).
3) IUG members will define precisely main goals and next tasks for development of world uranium science

M. CUNEY (CREGU, France), Chairman IUG, Yu. MIRONOV (VSEGEI, St. Petersburg, Russia), Co-Chairman IUG

Contributed by Vladimir Lobaev

The Commission on Paragenesis (PaC) report that Richard Hagni has resigned as Chairman of the Commission after serving for many years. The New Chairman is Adam Piestrzynski (Krakow, Poland; piestrz@geolog.geol.agh.edu.pl). He will be assisted by Thomas Wagner (Tübingen, Germanyth.wagner@uni-tuebingen.de).

IGCP Project 486 (Au-Ag-telluride-selenide deposits)
Report for 2006 and 2007

Introduction
Tellurides (and selenides) of Au, Ag, Bi, Pb, and other elements are commonly reported as trace minerals associated with gold in metallogenetic belts and regions of various ages, and in individual deposits that span the magmatic-hydrothermal spectrum, as well as those formed in metamorphic terranes. The association among tellurium, selenium and gold is long recognized, and is most evident in the prevalence of Au-(Ag)-
tellurides-selenides in some ore deposits. Despite this, it is only recently that tellurides and selenides have become widely used to help assess conditions of ore formation.

Among the questions we strive to resolve are the following: Do telluride-rich gold deposits represent a distinct genetic type of deposit? Is a magma source critical for their formation? Alternatively, do they represent exceptional examples of mineralization that may form in any hydrothermal system (in a broad sense) if that system experiences abrupt and sustained changes in physical-chemical parameters? How do the telluride and selenide minerals themselves respond to such changes? Are they thus valuable qualitative and quantitative petrogenetic markers?

IGCP-486 seeks to increase awareness and encourage interaction among scientists working at different scales and within different areas of expertise. This will be further developed in 2007. In particular, the project represents a forum for participants to discuss and exchange ideas and for participants in developing countries to meet individuals in developed countries and establish the basis for collaboration and research visits. No such foundation existed prior to the start of the project and the positive results are beginning to show, with several bilateral research projects established on the basis of initial contact via IGCP-486.

IGCP-486 started its activities in 2004 and has made increasingly rapid progress during 2005, and in particular, during 2006 and 2007. About 30 countries are now actively involved in various activities of the project, and this is set to continue as the project reaches its conclusion. IGCP-486 held its main events in Finland and USA in 2007. The project will conclude in 2008.

IGCP-486 Publication

A special issue of the journal ‘Mineralogy and Petrology’ has been published as Number 3-4 of volume 87 (July 2006) under the title ‘Telluride and selenide minerals in gold deposits – how and why?’, edited by C.L. Ciobanu, N.J. Cook and P.G. Spry.

Contents of this special issue are as follows:


Precious metal and telluride mineralogy of large volcanic-hosted massive sulfide deposits in the Urals I.V. Vikentyev, p. 305-326.

Silver sulfotellurides from volcanic-hosted massive sulfide deposits in the Southern Urals. K.A. Novoselov, E.V. Beloguh, V.V. Zaykov, V.A. Yakovleva, p. 327-349.


Joint Field Workshop of IGCP-473 and -486, Tashkent, Uzbekistan

A joint field workshop of International Geoscience Programme (IGCP) project 473 (GIS Metallogeny of Central Asia) and project 486 (Gold-telluride deposits) was held between April 22nd and 30th 2006 in Tashkent, Uzbekistan. A two-day scientific programme in Tashkent was followed by excursions to porphyry and epithermal deposits of the the Kurama metallogenic zone, the southwestern portion of the Chatkal-Kurama Zone. 40 participants from 11 countries attended the workshop. As well as academic researchers, the
participants included several students from the National University of Uzbekistan, as well as representatives from industry currently active in Central Asia.

The workshop, titled ‘Porphyry and Epithermal Deposits of the Chatkal-Kurama Region’ was organised by the National University of Uzbekistan, Dept. of Geology, Tashkent, the National Committee of Geologists of Uzbekistan, the Uzbek National Group of International association on the Genesis of Ore Deposits (IAGOD) and the Almalyk Mining Metallurgical Enterprise (AGMK).

Aside from the International Geoscience Program, other sponsors included IAGOD and Centre for Russian and Central EurAsian Mineral Studies (CERCAMS, Natural History Museum, U.K.). The scientific committee consisted of Turabek N. Dalimov (Uzbek National University, Tashkent; Chairman), Reimar Seltmann, IGCP-473 Project Leader (CERCAMS, NHM London, U.K.), Nigel Cook (IGCP-486 Project Leader, University of Oslo, Norway), Alexander Tadjiev (AGMK) and Igor Golovanov (Institute of Mineral Resources, Tashkent).

A full report of the workshop was published in Episodes in September 2006:

**International Field workshop: ‘Carpathians and Ukrainian Shield, Ukraine’, Kiev-Muckachevo-Uman-Kirovograd, Ukraine, August 2006**

The meeting was organised by the Ukrainian National Group of IAGOD with the participation of IGCP-486. The workshop aimed at increasing understanding of the geology, mineralogy and metallogenesis of Archaean and Proterozoic orogenic gold deposits in the Ukrainian Shield and Neogene gold-base metal deposits at Muzhievskie in the Beregovo area (Transcarpathian region). The workshop consists of an eight-day field excursion in the Ukrainian Carpathians and Ukrainian Shield. Supporting agencies included The Geological Survey of Ukraine, National Academy of Sciences, Mining-processing companies and regional administrations of the Transcarpathian, Vinnytsa and Kirovograd state regions.

A total of 31 persons participated in the workshop, representing Australia, Canada, Germany, Kyrgyzstan, Norway, U.K., Russia and Ukraine. Several participants have increased collaboration with Ukrainian scientists as a result of the trip.

**Scientific session of IGCP-486, 12th IAGOD Quadrennial Symposium**

The scientific session ‘I4. Au-Ag-Te-Se deposits: modern methods of studying their genesis’ was be held during the 12th IAGOD Quadrennial Symposium, Moscow, Russian Federation, August 21st – 25th, 2006. Session leaders were: V. Kovalenker, O.Plotinskaya and N.Cook. The formal session was continued, with ample opportunity for additional discussion, at the Institute of Geochemistry and Experimental Mineralogy Russian Academy of Sciences (IGEM-RAS), by kind invitation of Drs. Nikolai Bortnikov and Vladimir Kovalenker, Director and Deputy Director of IGEM-RAS, respectively. Together, the two sessions aimed to bridge the gap between scientists working in the laboratory on experimental or theoretical aspects of telluride-selenide Au-Ag- deposits formation and those working in the field studying and documenting deposits currently under exploitation or exploration.
The oral presentation programme contained several talks that show the diversity of different studies within the field of telluride- and selenide-bearing deposits and the range of methods being used to study them. Extended abstracts of the above papers were contained in the following CD-ROM volume:


**Field Workshop of IGCP-486, Izmir, Turkey, 24-30th September 2006**

An extremely well organised and highly successful workshop was held, consisting of two days of scientific presentations at Dokuz Eylül University, İzmir, Turkey, with post-meeting field excursions to the Kişladağ-Porphyry Au deposit, the Ovacık Au low-sulphidation epithermal deposit and the Efemçukuru Au epithermal deposit.

The workshop followed the following programme: Sunday (September-24) Arrival at İzmir Registration / Dokuz Eylül University-Izmir; Monday (Sept. 25th): Field trip Day 1 - İzmir-Eşme(Uşak). Visit of Kişladağ-Porphyry Au deposit. Night in İzmir; Tuesday (Sept. 26th): Field trip Day 2 - Visit of Ovacık (İzmir) Au LS epithermal deposit, Night in İzmir; Wednesday (Sept. 27th): Field trip Day 3 – Visits to other deposits in the İzmir area, Night in İzmir. The scientific session were held 28-29 September 2006 in İzmir. Financial support from the IGCP programme, Dokuz Eylül University, Tuprag Mining, Koza Altın Mining and ALS-Chemex allowed registration fees to be kept at Euro 300 (200 for Ph.D. students), including all accommodation for 6 nights, meals, transportation and workshop publications. A reduced fee (Euro 200 - 100 for Ph.D. students) was available for participants from economically disadvantaged countries.

Workshop Coordinators: İsmet Özgenc, Dokuz Eylül University-Izmir-Turkey - National representative of IGCP-486; Tolga Oyman, Dokuz Eylül University-Izmir-Turkey; Nigel Cook, Project leader.

The workshop attracted 69 registrants representing 19 countries (Australia, Bulgaria, Canada, Cyprus, Finland, Germany, Greece, Italy, Mongolia, Norway, Romania, Russia, Serbia, Slovakia, Sweden, Switzerland, Turkey, U.K. and U.S.A.). An additional three countries (Kyrgyzstan, Macedonia and Uzbekistan) were represented with abstracts in the proceedings volume, but could not physically attend the workshop. A prominent feature of the workshop was that participants were a good mixture of mostly young to mid-career researchers, with ca. 25 participants from mining and exploration companies. Lively discussion took place during both the field visits, the scientific symposium and the social events.

A 174-page proceedings volume was published, containing 29 papers presented at the workshop:


**19th General Meeting of International Mineralogical Association, Kobe, Japan, July 2006**

A number of presentations relevant to IGCP-486 were given within the framework of a session convened by the Commission on Ore Mineralogy of the International Mineralogical Association (IMA-COM) ‘Ore Mineralogy’ held during the 19th IMA General Meeting in Kobe, Japan, July 23-28th 2006. Conveners are: M. Shimizu (Japan), K. Kojonen (Finland), R. Merkle (South Africa) and N. Cook (Norway).

**IGCP-486 Field workshop, Finland**

IGCP project 486 held its 2007 field workshop in Southern Finland between August 26th and 31st 2007. A three-day field excursion to gold deposits and prospects across Southern Finland was followed by a two-day scientific symposium at the Geological Survey of Finland in Espoo. Participants from 12 countries (Finland, Norway, Russia, Latvia, United Kingdom, Romania, Bulgaria, Greece, Turkey, Canada, Australia, United States of America) attended the workshop which was organized by the Geological Survey of Finland, with support from Dragon Mining and the Nordic Mineralogical Network.

*Workshop framework*
Finland has the potential to become one of Europe’s major gold producers in the near future. Extensive exploration in recent decades has located many dozens of prospects and several mine operations are currently under development (www://en.gtk.fi/ExplorationFinland/Commodities/Gold/gtk_gold_map.html). It was therefore a natural venue for the IGCP-486 workshop in the final full year of the project, with participants eager to visit one of the most exciting exploration areas in northern Europe.

The three-day fieldtrip was designed to provide participants. Many of whom had little prior knowledge of the geology of this part of the Fennoscandian Shield, with an introduction to the gold metallogeny of Southern Finland, and the style of ore deposits in the area. Many of the gold deposits in Finland contain a range of minor or accessory telluride minerals; in some cases these are of potential economic significance and have attracted attention from researchers.

Field excursion

The fieldtrip focused on mineral deposits hosted within the Svecofennian province of the Fennoscandian Shield. Rock sequences hosting the deposits are thus ca. 1.8 Ga in age.

The first day opened with a visit to the closed Orijärvi massive sulphide mine within the Uusimaa belt 4 km ESE from Kisko and 29 km ESE from the city of Salo. The ca. 1.2 MT deposit was exploited between 1758 and 1954. Average ore grades for the most recent phase of exploitation were 3.01% Zn, 0.87% Pb, 0.74% Cu, 0.4 ppm Au and 10 ppm Ag. The deposit is hosted by a sequence containing a majority of felsic metavolcanic rocks with abundant metasediments, altered mafic to intermediate volcanogenic rocks, and intrusions. The area is perhaps best known as that in which Pentti Eskola, as a result of his pioneering research in the early 20th Century, first put forward concepts which gave birth to metamorphic petrology as we know it today. Alongside common base metal sulphides, the deposit is also the type locality of the rare selenide mineral laitakarite. The second excursion target of the first day was the Satulinmäki Au prospect, 17 km SW from Forssa, in the Hämeenlinna schist belt. Native gold occurs in several high-grade quartz±tourmaline veins in the contact zone between felsic and intermediate volcanogenic rocks. Native gold is associated with arsenopyrite, pyrrhotite, Au-Bi and Au-Sb minerals. The ore zone is ca. 500 m long, open along strike, and is NE-trending. Major ore minerals are arsenopyrite and pyrrhotite; a range of accessory sulphides and tellurides are known. Gold is enriched in a contact zone of felsic and intermediate volcanogenic rocks having an E-W trend and dipping steeply to the south. The rock types include minor mafic volcanogenic intercalations in the north a mica schist unit. The Satulinmäki area is interpreted as a SW-trending dextral shear zone. The area is dominated by a sequence of intermediate (dominantly andesitic), calc-alkaline metavolcanic rocks of the Forssa Group. The deformed aplites are in the contact zone of intermediate and mafic volcanogenic rocks and host the auriferous quartz-tourmaline breccias.

On the second day, participants visited two gold prospects currently being investigated by Polar Mining Oy. The Kaapelinkulma Au prospect is located 5 km SE from Valkeakoski, and the Jokisivu gold project, 7 km SSW from Huitinnen. The latter is currently undergoing a feasibility study and test mining. The current in situ resource estimate is 322,700 ounces of gold at an average grade of 6.8 g/t Au. Two major orebodies, Kujankallio and Arpola, each comprise several auriferous quartz veins surrounded by altered host rock, are located within shear zones within a diorite body. Gold occurs as free grains in quartz veins with arsenopyrite and pyrrhotite, and with minor tellurides. Development at Jokisivu will be initially an open pit followed by an underground operation. The Jokisivu project has received environmental and start-up permits, but these are presently under appeal by local landowners.

On the third day, participants visited the Orivesi (Kutemajärvi) Mine in the Tampere Greenstone Belt, where Polar Mining Oy, a subsidiary of Dragon, are exploiting 600,000 tonnes of high-grade gold ore annually in a recently restarted underground operation. A wide range of telluride minerals are conspicuous components of the ore.

The field excursion was concluded by a visit to the core storage facility of the Geological Survey of Finland, at Loppi, where gold ores from central and northern Finland (including Kusaamo, Oijärvi and Isokonmäki) were available for inspection.

Scientific session

The scientific session, held on August 30th and 31st in the conference hall at the Geological Survey of Finland, featured fourteen oral presentations which explored many aspects of telluride- and sulphosalt-
bearing mineralization. Talks included a range of topics ranging from cutting-edge experimental and microanalytical investigations to several detailed case studies on deposits in Finland, Russia, Greece, Bulgaria, Canada and elsewhere. Several talks targeted the growing understanding of the mechanisms by which assemblages of ‘exotic’ elements can be precipitated as melts (e.g., ‘The secret lives of immiscible metal-rich melts: two liquid immiscibility in the sulphide-antimony system’ by Sparks et al., or ‘Au-Bi-Te melts: Annealing-quenching experiments on material from the Oya gold deposit (Japan)’ by C.L. Ciobanu et al.). Other presentations showed how the rapidly expanding volume body of microanalytical data enables connections to be made between observed mineralogy and the geochemical character of telluride-enriched mineral deposits (e.g., ‘Geochemistry of Se and Te in arsenian pyrite: new evidence for the role of Se and Te hydrothermal complexes in Carlin and epithermal-type deposits by S.E. Kesler et al., or ‘LA-ICP-MS determination of gold in Bi-minerals from deposits in the Fennoscandian Shield’ by Cook et al.).

Products

Extended abstracts of papers presented at the meeting were published in the following proceedings volume: 

Workshop results

The type of ore deposits visited during the field excursion contrasted with those looked at during previous IGCP-486 workshops (dominantly of epithermal type), in that these were all Proterozoic in age and had undergone regional metamorphism. This implies that the mineralogy of gold and associated elements underwent modification during the overprinting events. The workshop thus gave a new dimension and dynamic to the project. The continued involvement in the project of participants representing sub-disciplines from experimentalists, mineralogists and field geologists, offers the opportunity for improved modeling in the future.

Acknowledgements

The workshop would not have been possible without the support of the Geological Survey of Finland and Dragon Mining. We are grateful to these organizations, to Pentii Gronholm (Dragon Mining) and Krister Sundblad (University of Turku) and other individuals who helped make the workshop both successful and highly enjoyable.

2. Scientific session at Fall 2007 GSA Meeting, Denver, CO and pre-meeting excursion to Cripple Creek

Field excursion Cripple Creek Au-Te deposit, Colorado (27th October 2007)

The field excursion was organised by IGCP-486 in conjunction with the Society of Economic Geologists (SEG) and afforded 30 participants the opportunity to visit the giant and historic Cripple Creek epithermal gold deposit, in which the ore consists of fine-grained telluride mineralisation. The excursion group, led by Dr. Eric Jensen, who recently completed his Ph.D on the deposit, and Tim Brown (AngloGold Ashanti) visited a total of ten stops, examining the Cripple Creek diatreme breccia and associated Precambrian rocks that host the deposit and ores within the mine area. An extensive field guide was published by the Geological Society of America, and carrying the IGCP logos (REF). All field trip participants also received a CD-ROM with the fieldtrip guide in colour.

Topical session 72: Au-Ag-Te-Se Deposits and Other Precious Metal Deposits

The session, organized by IGCP-486 and SEG, was held in room 504 between 8:00 a.m. and 12:00 p.m. on Monday, 29 October. Twelve papers were presented orally. Two papers related to the session were given as posters. 2007. Conveners of the session were N.J. Cook, P.G. Spry and C.L. Ciobanu-Cook, who also shared chairing the session. The goal of the session was to provide an overview of work being carried out within the IGCP-486 project on telluride- and selenide-bearing mineral systems, with speakers from North America, Europe and Australia. Papers presented ranged from experimental studies, reviews and case studies.
Cook presented the first presentation at the start of the session, titled ‘What makes a gold-telluride deposit?’ in which progress within IGCP-486 was reviewed.

The suggestion to hold the session stemmed from the desire expressed by the international governing board of IGCP that IGCP-486 hold at least one meeting in North America during the lifetime of the project. The session was attended by 100-120 persons, lively discussion took place and the session was considered a success by the conveners.

Products

Abstracts were published within Geological Society of America Abstracts with Programs, Vol. 39, No. 6.

N.J. Cook, C.L. Ciobanu, P.G. Spry WHAT MAKES A GOLD-TELLURIDE DEPOSIT?

P.V. Grundler, J. Brugger, B.E. Etschmann EXPERIMENTAL STUDY OF TELLURIUM IN CHLORIDE BRINES.

A.G. Tomkins, D. R. M. Pattison, J. A. Mavrogenes GENERATION OF COMPLEX POLYMETALLIC MELT ASSEMBLAGES IN METAMORPHOSED GOLD DEPOSITS.

B.A. Tooth, J. Brugger, W. Liu, C. Ciobanu MODELLING MELTS IN HYDROTHERMAL SYSTEMS - THE LIQUID BISMUTH COLLECTOR MODEL.

W.R. Howard, N.J. Cook, C.L. Ciobanu TELLURIDE ASSEMBLAGES IN A REDUCED INTRUSIONRELATED GOLD (RIRG) DEPOSIT, CLY GROUP PROSPECT, SOUTHEASTERN BRITISH COLUMBIA, CANADA

P. Vikre AU-AG-S-SE DEPOSITS IN THE WESTERN US.

M.F. Coolbaugh, G. B. Arehart, J. E. Faulds, P. G. Vikre, D. A. John ACTIVE GEOTHERMAL SYSTEMS AND PLEISTOCENE AND YOUNGER GOLD DEPOSITS OF THE GREAT BASIN, USA: REGIONAL CONTROLS AND SELENIUM CONCENTRATIONS AS A CLUE TO ORE ENVIRONMENT.


E.P. Jensen, M.D. Barton THE TIMING, CHARACTER, AND SIGNIFICANCE OF LATE STAGE CARBONATE, SULFATE AND HYDROLYTIC ALTERATION ASSEMBLAGES IN THE CRIPPLE CREEK GOLD TELLURIDE DISTRICT, COLORADO

P.G. Spry, N. L. Forsythe, N. L. Scherbarth, D. W. Pals PRECIOUS METAL TELLURIDE OCCURRENCES IN FIJI.


A.E. Lambeck DETERMINING POTENTIAL GOLD HOST ROCKS IN POORLY EXPOSED PROTEROZOIC METASEDIMENTARY ROCKS.

P. Voudouris, P. G. Spry THE MINERALOGY AND GENESIS OF PRECIOUS METAL TELLURIDE DEPOSITS OF GREECE.

C.L. Ciobanu, W. Birch, A. Pring, N.J. Cook AU-BI-TE-S ASSEMBLAGES FROM MALDON GOLD DEPOSIT, VICTORIA, AUSTRALIA

Nigel J. Cook, Project coordinator

Announcement

The 9th National Conference on Mineral Resources of China
7-10 November 2008

During the 8th National Conference on Mineral Deposits of China in Nanchang, 2006, the council meeting of the Committee on Mineral Deposits, Geological Society of China decided to change the quadrennial National Conference on Mineral Deposits of China to biennial from now on. Since rapid economic development
requires more and more mineral resources, geologists from both industrial and academic organizations have made major contributions and many great achievements during the past two years. In order to promote academic exchange, create a stronger a connection between research and exploration, and upgrade future ore prospecting, the 9th Ninth National Conference on Mineral Resources will be held at the China University of Geoscience, Beijing, between November 7th and 10th, 2008. On behalf of the Organizing Committee, we warmly welcome all geologists from universities, governmental organizations and different fields of industry to participate in the conference.

With the decision to open the historical national conference to participants from outside China made by Committee on Mineral Deposit, Geological Society of China, we believe the Biennial 9th NCMDC will be a historical milestone. We also sincerely welcome all colleagues and friends over the world to join us in Beijing.

Co-sponsors of the Conference
Committee on Mineral Deposit, Geological Society of China
Committee on Mining Geology, Geological Society of China
Committee on Geochemistry of Ore Deposit, China Society of Mineral, Rock and Geochemistry
International Association on the Genesis of Ore Deposits (IAGOD)
Society of Economic Geologists (SEG)
Society for Geology Applied to Mineral Deposits (SGA)
Society of Resource Geology (SGR)
China Geological Survey
National Natural Science Foundation (NFSC)
China Mining Association
Administrative Office of Relaying Sources Exploration Project
Administrative Center of Geological Exploration Fund, Ministry of Land and Resources
China University of Geosciences (Beijing)
Institute of Mineral Resources, Chinese Academy of Geological Sciences
Institute of Geochemistry, Chinese Academy of Sciences
Geological Survey Center of Non-ferrous Metals
Beijing Institute of Nuclear Industry Geology
Key Laboratory of Mineralization and Resource Assessment, Ministry of Land and Resources
State Key Laboratory of Geological Process and Mineral Sources
State Key Laboratory of Ore Deposit Geochemistry
State Key Laboratory of Ore-forming Mechanism of Endogenetic Metal Deposit
Key Laboratory of Applied Geochemistry, Chinese Academy of Geological Sciences
Centre for Russian and Central EurAsian Mineral Studies (CRCEAMS)

Host organizations
China University of Geosciences (Beijing)
Institute of Mineral Resources, Chinese Academy of Geological Sciences
State Key Laboratory of Geological Process and Mineral Sources
Key Laboratory of Mineralization and Resource Assessment, Ministry of Land and Resources

Conference Organizing Committee

Directing Committee
Director: Wang Min

Organizing Committee
Chairman: Chen Yuchuan
Jingbin, Wang Ruijiang, Wang Yisui, Xia Xuehui, Yan Guangsheng, Yasushi Watanabe, Yao Shuzhen, Zai Mingguo, Zhou Shaoping


**Secretary Generals:** Mao Jingwen, Deng Jun, Liu Yuqiang

**Secretary Group:** Sun Wenhong, Xue Chunji, Tang Juxing, Qin Kezhang, Wang Yitian, Zhao Caisheng, Wang Jingchun

**Thematic Sessions**

1. Regional mineral resources and metallogeny.
   - Conveners: Hou Zengqian, Deng Jun, Dong Lianhui, Wang Denghong, Chen Yanjing
2. Cu-Ni-Pt-Pd-Cr-Ti-V deposits related to mafic-ultramafic rocks
   - Conveners: Li Wenyuan, Zhou Meifu, Shu Shangguo, Song Xieyan
3. Ore-forming process of gold deposits and their geological settings
   - Conveners: Hu Ruizhong, Nie Fengjun, Qing Min, Liu Jiajun, Sun Xiaoming
4. Ore-forming process and exploration of uranium deposits
   - Conveners: Li Ziyang, Dai Minzhu, Chen Peirong
5. Mineralization of magmatism-related metal deposits
   - Conveners: Zhu Yongfeng, Hua Renmin, Zhou Taofa, Qu Xiaoming, Bi Xianwu
6. Modern and ancient submarine exhalation mineralization
   - Conveners: Gu Lianxing, Zeng Zhigang, Shi Xuefa, Peng Runmin, Zhu Youhai, Gao Aiguo
7. Continental hypogene mineralization and high-enrichment of elements
   - Conveners: Liu Chenglin, Li Jianwei, Qi Wen, Gu Xuexiang
8. Simulation and experiment of ore-forming process
   - Conveners: Duan Zhenhao, Liu Yun, Zhang Xueqiu, Chen Jiawei
9. Geochemical trace on mineralization and ore-forming geochronology
   - Conveners: Jiang Shaoyong, Li Yanhe, Xue Chunji, Chen Fukun
10. Geological fluid and mineralization
    - Conveners: Fan Hongrui, Ni Pei, Zhang Dequan, Xue Jiuhua, Xu Wenyi
11. Theory and method of geochemical exploration
    - Conveners: Wang Xueqiu, Luo Xianrong, Jia Guoxiang
12. Theory and methods of geophysical exploration
    - Conveners: Lu Qingtian, Lian Guanghe, Yao Jingjin, Meng Xiaohong, Tang Jingtian, Hu Yuping
13. Theory and method of remote sensing
    - Conveners: Zhu Guochang, Yang Jinzhong, Yang Jianmin, Ma Jianwen, Hu Guangdao
14. Theory and methods of ore prospecting at depth
    - Conveners: Peng Shenglin, Lu Guoxian, Zhao Caisheng
15. Prospecting and searching new ores for the operating mines
    - Conveners: Yan Guangsheng, Lu Zhicheng, Liu Hongchen
16. Theory and methods of mineral assessment
    - Conveners: Xiao Keyan, Bai Wancheng, Cheng Qiuming, Luo Huabo
17. Strategy of mineral resources, mining economy and sustainable development
18. Assessment and utilization of the tailings

**Post- or Pre-meeting Field Trips**

1. Jiaodong Au deposits
2. Porphyrite Fe deposit, and porphyry-skarn Cu-Au-Mo deposits in the Low-Middle Reaches of Yangze River
3. Baolun Au deposit, Shilu IOCG ore deposit in Hainan Island
4. Mo, Au, and Pb-Zn-Ag deposits in the west Henan province
5. W-Sn polymetallic deposits in the south Hunan province

Detailed information about the field trips, including names of the deposits to be visited, the cost of the field trips, and their dates, will be given in the second circular.

**Oral Presentations and Posters**
The conference consists of plenary session and thematic sessions. The length of the keynote oral presentations of plenary session and thematic session is 30 minutes. General oral presentations within the thematic session should be 20 minutes.

One or two posters can be presented by participants. The available space for a poster is 120 cm vertical height and 95 cm horizontal width.

**Abstracts and Papers**
The maximum length of abstract manuscripts is two pages (less than 2,500 words) including figures, tables and references, which should be submitted as WOTRD documents using the format of *Mineral Deposits (KUANG CHUANGDIZHI)*. After review, the accepted abstracts will be published in the Proceedings Volume. The deadline for submission of abstracts is 30th July 2008. Besides the abstracts, the conference committee encourages participants to submit papers with full text, which will be recommended to the journals *Acta Geologica Sinica* (both Chinese and English editions), *Geological Reviews*, *Mineral Deposits (KUANG CHUANGDIZHI)*, *Journal of Petrology and Mineralogy*, *Geology and Prospecting*, and *Acta Geoscientia Sinica*. Contact: Dr. Zhang Changqing (zcqchangqing@sina.com)

**Conference language**
Chinese or English

**Registration Fee**
The registration fees are 1200RMB for regular participants (500RMB for students), and 500RMB for accompanying guests until 31st August, 2008. After 30th August 2008, registration fees are 1500RMB for regular participants (600RMB for students), and 600RMB for accompanying guests. Students should present his/her student’s identity card for registration. Cancellation of registration received by the conference secretariat up to two months before the conference will be refunded at 80%. No refunds will be made after that time.

**Payment methods for registration:**
A. Bank Transfer
   Bank account: Institute of Mineral Resources, Chinese Academy of Geological Sciences
   Account Number: 0200001409008818567
B. Post Remittance
   Address: 26 Baiwanzhuang Road, Beijing, Post Code: 100037
   Receiver: Science and Technology Department, Institute of Mineral Resources, Chinese Academy of Geological Sciences
C. Payment on-site registration.

**Accommodation**
Meals and hotel accommodations will be arranged by the conference committee. Costs will be paid by the participants.

**Venue and Date**
Venue: Academic Exchange Center, China University of Geosciences (Beijing)
Date: November 7-10, 2008.

**Contacts**
1. Sun Wenhong, Qi Feng, Tang Juxing
   Institution: Institute of Mineral Resources, Chinese Academy of Geological Sciences
Announcement

13th Quadrennial IAGOD Symposium 2010

‘GIANT ORE DEPOSITS DOWN-UNDER’

Conference Format

IAGOD Adelaide 2010 will consist of several concurrent technical sessions to be held within the Adelaide Convention Centre, along with some afternoon fieldtrips to nearby minesites during the conference, several pre- and post-conference fieldtrips, short courses, displays and social functions.

Pre- and Post-conference fieldtrips

There are several proposed pre- and post-conference fieldtrips, including Olympic Dam and Prominent Hill (South Australia), mines of Western Tasmania, opal fields of the Great Artesian Basin (New South Wales and South Australia) and a preconference trip across New South Wales (visiting the Cadia, North Parkes, Cobar and Broken Hill deposits) and down into South Australia (visiting the Olary Province, Flinders Ranges, historic Burra copper mine) arriving in Adelaide a few days before the conference begins.
Olympic Dam

Accommodation

Adelaide offers a wide range of accommodation (backpackers, hostels, one to five star hotels, self-service apartments etc.) within walking distance of the Adelaide Convention Centre. A list will be provided with the First Circular and on the IAGOD website soon.

Social Events

Proposed social events include a behind-the-scenes visit to the South Australian Museum, Penfolds Magill Estate winery in the Adelaide Hills, Adelaide Conservatorium of Music, historic Hahndorf village, and a typical Australian BBQ.

Secretariat
Chair: Professor Ian Plimer, Dept. of Earth and Environmental Sciences, University of Adelaide, Adelaide, S.A., Australia

Treasurer: Dr Martin Fairclough, PIRSA, Adelaide, S.A., Australia

Secretary: Dr Ian Graham, University of New South Wales, Sydney, N.S.W., Australia

Dr Nigel Cook, IAGOD SG

For more information, please contact:
Ian Graham
i.graham@unsw.edu.au
Announcement

Government of the Magadan Region, Russian Federation
Magadan Branch of the Russian Geological Society “RosGeo”
North-East Interdisciplinary Scientific Research Institute
of the Russian Academy of Sciences

International Convention
"Gold of the North Pacific Rim"
dedicated to the 30th Anniversary of the Discovery of Gold in the Kolyma region

September 8-14, 2008, Magadan

http://gold-forum.nersii.ru

The International Geological & Exploration & Mining Convention “Gold of the North Pacific Rim”, dedicated to the 30th Anniversary of the First Kolymian Expedition under the direction of Yuriy Nihilea, which was responsible for discovering gold in the Kolyma Region – today one of the largest gold producing provinces of the world, is to be held in September 8-14, 2008, in Magadan, Russian Federation.

The Convention is initiated by Government of the Magadan Region, Magadan Branch of the Russian Geological Society (RosGeo) and the North-East Interdisciplinary Science Research Institute of the Russian Academy of Sciences.

A wide range of topics for discussion at the Convention includes key questions of geology, exploration and mining for gold deposits throughout different regions of the Northern Pacific and specific problems of gold processing in Arctic areas (higher than 60° N).

The agenda of the Convention will be formed by "All-Kolymian Geological Conference", Trade Show "The Gold Resources of the Northern Pacific" and a few Round-Table discussions of gold production activities. We are planning to organize field trips to the supergiant precious metals deposits of the region, such as 60 Marx Mutlalak gold deposit and 500 Marx Tokat silver deposit.

PRELIMINARY AGENDA OF CONVENTION

PART 1. "All-Kolymian Mining & Geological Conference"

Section 1. Geology of Gold Deposits.
1) Exogenous Gold Deposits;
2) Genetic Gold Deposits;
3) Geochemical-Related Gold Deposits;
4) Porphyry-Copper Gold Deposits;
5) Gold Peneplains;
6) Metavulcanites of Gold and ore-forming Environments;
7) The History of Gold Mining in the Northern Regions.

PART 2. Round-Table Discussions.
1) New Types of Gold Deposits;
2) Governmental Policy and Business Climate in Gold Production;
3) Resource-Reserve Evaluation - Comparison of Different Points of View;
4) Specific Problems of Gold Peneplains Mining;

Section 2. Gold Exploration and Mining in the Northern Regions.
1) Exploration Methods & Techniques;
2) Mining and Processing Methods & Technologies;
3) Financial and Marketing Problems of Gold Production;
4) Mining and Processing Equipment.

PART 3. Trade Show "Gold Resources of the Northern Pacific".


The United Nations General Assembly, meeting in New York, has proclaimed the year 2008 to be the United Nations International Year of Planet Earth. The Year's activities will span the three years 2007-2009.

The International Year of Planet Earth was approved by general acclamation of the General Assembly, and no vote was taken.

The Year's purpose, encapsulated in its theme ‘Earth sciences for society’, is to:

- Reduce risks for society caused by natural and human-induced hazards
- Reduce health problems by improving understanding of the medical aspects of Earth science
- Discover new natural resources and make them available in a sustainable manner
- Build safer structures and expand urban areas, utilizing natural subsurface conditions
- Determine the non-human factor in climatic change
- Enhance understanding of the occurrence of natural resources so as to contribute to efforts to reduce political tension
- Detect deep and poorly accessible groundwater resources
- Improve understanding of the evolution of life
- Increase interest in the Earth sciences in society at large
- Encourage more young people to study Earth science in university

http://www.esfs.org/index.htm