IAGOD

e-NEWSLETTER

2008

THE INTERNATIONAL ASSOCIATION
ON THE GENESIS OF ORE DEPOSITS

Vernadsky State Geological Museum of RAS
Moscow
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This newsletter is being sent out in digital form. Hard copy will be sent, by request, to some of our national groups.

2008 was not an easy year for the association – we have lost many of our active members. But, it was also quite memorable because of multiple activities, particularly – the ones connected with the 33rd International Geological Congress in Oslo, where, along with the IAGOD General Assembly, many sessions were organized under the umbrella of IAGOD. The full reports on these and other events 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.

General 2008 Report of the International Association on the Genesis of Ore Deposits (IAGOD)

Mission

Research into the origin of ore deposits lies at the cornerstone of many sub-disciplines in the geological sciences. The number of methods that can be successfully applied to understand the processes involved in the generation, localization and preservation of economic concentrations of ore minerals continues to grow. High levels of expertise in mineralogy, petrology, geochemistry and structural geology are increasingly needed by those who wish to understand ores. Whatever part of the world one lives in, the economic importance of mineral exploitation is evident, even though dramatic structural changes in the mining industry have occurred in the past two decades, leaving large parts of the industrialized world without a significant domestic metal mining industry, despite ever growing consumer demand.

Although focus may have changed substantially in recent years as a consequence of political actions, including appreciably more research on the environmental effects of mining, ore deposit research has never been more important, as the search for new, undiscovered ore deposits becomes more difficult and costly. Despite the lack of focus on ore geology in some universities, the central role of ore geology is just as evident today, in the 3rd millennium A.D., as it was in the past. With this, and ever-increasing globalization in mind, good possibilities for international collaboration are more important than ever before to all scientists whose goal is to understand how and why ore deposits are formed.

(Nigel Cook, IAGOD President)

Goals

IAGOD promotes international cooperation in the study of the genesis of ore deposits and participates closely with other international bodies in the field of ore deposits research in a range of international programmes, including several IGCP projects. Current membership stands at around 500 economic geologists from more than 60 countries, both individual members and members in 9 National IAGOD Groups (China, Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan, Georgia, Uzbekistan, Ukraine). Vietnam group (with about 20 new members) joins the association since the end of 2008. The society aims to bring scientists together within working groups and at the larger quadrennial meetings and interim conferences. IAGOD members are involved on all aspects of research on ore deposits from intercontinental GIS to nanoscale ore mineralogy.

Individual IAGOD members pay a nominal €10 in annual dues, with national groups paying a lump sum (from €50 to €500, depending on group size). Corporate members pay €100 annually.

Organization

Scientific activities of IAGOD are carried out within the following Commissions and the Working Groups:

Commission on Tectonics of Ore Deposits (CTOD)
  Working Group on 'Global Tectonics & Metallogeny (CTOD)'
  Working Group on 'Remote Sensing Methods for Tectonics & Ore Prospecting'
Commission on Paragenesis (PaC)
Commission on Industrial Minerals and Rocks (COIMR)
Commission on Ore Deposits in Mafic & Ultramafic Rocks (CODMUR)
Commission on Placer Deposits
Commission on Thermodynamics of Ore Forming Fluids
Working Group on Skarn Deposits
Working Group on Tin & Tungsten Deposits (WGTT)
Working Group on Ores and Metamorphism (WGOM)
IAGOD Newsletter 2008

Working Group on Manganese
International Uranium Group of IAGOD

IAGOD holds its main business meetings every two years, coinciding with the International Geological Congress and alternately with IAGOD’s own Quadrennial Symposia. The following council serves for the period 2008-2012:

<table>
<thead>
<tr>
<th>Position</th>
<th>Person</th>
<th>Contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past President</td>
<td>A. I. Khanchuk</td>
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<tr>
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<tr>
<td>Asia</td>
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<tr>
<td>Australasia</td>
<td>Martin Fairclough</td>
<td>Australia, Government of South Australia Primary Industries and Resources SA (PIRSA).Level 4, 101 Grenfell Street, GPO Box 1671, Adelaide SA 5001, Australia Tel. (+61) 8 8463 3064; Fax (+61) 8 8226 3200 <a href="mailto:fairclough.martin@sa.gov.sa.gov.au">fairclough.martin@sa.gov.sa.gov.au</a></td>
</tr>
<tr>
<td>Europe</td>
<td>Alexey Aleshin</td>
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<tr>
<td>North America</td>
<td>David Lentz</td>
<td>Canada, Dept. of Geology, University of New Brunswick, Box 4400, 2 Bailey Drive Fredericton, New Brunswick E3B 5A3 Canada Tel: (506) 447-3190 - direct Tel: (506) 453-4803 - main office; Fax: (506) 453-5055 <a href="mailto:dlentz@unb.ca">dlentz@unb.ca</a></td>
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<tr>
<td>South America</td>
<td>Eduardo Zappetin</td>
<td>Argentina, Instituto de Geologia y Recursos Minerales, Avenida Julio A. Roca 651 – 8°piso Sector 8, Buenos Aires, Argentina Tel +54 11 4349 3131 – Fax +54 11 4349 3171, <a href="mailto:ezappete@secind.mecron.gov.ar">ezappete@secind.mecron.gov.ar</a></td>
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<tr>
<td>Ex-officio Councillors</td>
<td></td>
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</tr>
<tr>
<td>Andor Lips</td>
<td>Lydian International Ltd.</td>
<td><a href="mailto:andor.lips@lydianinternational.co.uk">andor.lips@lydianinternational.co.uk</a></td>
</tr>
<tr>
<td>Oskar Thalhammer</td>
<td>Austria, Department of Applied Geosciences &amp; Geophysics, University of Leoben</td>
<td>Peter Turner-Strasse 5A-8700 Leoben, Austria <a href="mailto:Oskar.Thalhammer@mu-leoben.at">Oskar.Thalhammer@mu-leoben.at</a></td>
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</table>
Chief accomplishments in 2008

Meetings and conferences

IAGOD had a general assembly and a council meeting in Oslo, 9th August 2008. Beside of that, in the frame of 33rd International Geological Congress, IAGOD co-sponsored three disciplinary symposia (MRD-07 Geology and mineral potential of CIS countries - Oleg Petrov, Reimar Seltmann; MRD-09 Au-Ag telluride-selenide deposits - Nigel Cook, Kari Kojonen jointly with IGCP 486 and IMA-COM; MRD-02 Deep sources and signatures of ore forming systems - a tool for new discoveries of mineral deposits – Sergei Cherkasov, Lawrence Cathles), and one regional symposia (AAA-11 Metallogeny of the Arctic region - Tom V. Segalstad, Ingar F. Walder).

The Ukrainian National Group of IAGOD has organised a field excursion as part of the International Geological Congress: No. 52. ‘Geology, Radiological Age, and Metallogeny of Greenstone Complexes in the Ukrainian Shield’.


IAGOD co-sponsored an International conference “Gold mining problems: first results of the International geology” and mining forum “Gold of the North Pacific Rim” (September 7-15, 2008), devoted to the 80th anniversary of the Geolcom First Kolyma Expedition. The event was organized by Far East and Siberian Branches of the Russian Academy of Sciences, and several other Russian earth science agencies and institutes.


IAGOD acted as an informational sponsor for MINEX Forum -2008 in Moscow, Russia (1-3 October, 2008) and has organized a plenary session “Mineral exploration in Russia and CIS” in the frame of the Forum.

IAGOD was co-sponsor the CERCAMS-12 workshop “Metallogeny of Central Asia from Kazakhstan to Xinjiang – Research in Progress” held in London, 25-26 November 2008.

Publications

IAGOD Journals

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. In 2008, the volumes 33 and 34 containing 4 issues each were published:

Volume 33, Issue 1, pp. 1-114 (January 2008).
Special Issue on Ore-forming Processes associated with Mafic and Ultramafic Rocks. Edited by M. Economou-Eliopoulos, G. Garuti and J. Mungall

Volume 33, Issue 2, pp. 115-210 (April 2008)
A Special Issue devoted to Nonsulfide Zn-Pb Deposits. Edited by H.A. Gilg, Maria Boni and N.J. Cook

Volume 33, Issues 3-4, pp. 211-682 (June 2008).
The issue contains Invited Selected Papers from ICAM 2004 on Developments in Applied Mineralogy (Edited by Fábio Ramos Dias Andrade, H. Albert Gilg and Nigel J. Cook)

Volume 34, Issues 1-2, pp. 1-216 (September 2008)
The Genesis of Gem Deposits. Edited by Ian T. Graham, Khin Zaw and Nigel J. Cook
Sponsored by De Beers Group, Johannesburg, South Africa.


Volume 34, Issue 4, pp. 521-612 (December 2008).
The contents of the issues can be found at http://www.sciencedirect.com/science/journal/01691368
The journal **Global Tectonics and Metallogeny**, published by Schweizerbart'sche Verlagsbuchhandlung, was edited by late J. Kutina, as part of the activities of the IAGOD Commission on Tectonics of Ore Deposits (CTOD). In 2008, Vol. 9, No. 1-4 (2006/2007) was published under a title "Mineralogy of large and superlarge ore deposits". IAGOD will re-launch the journal in cooperation with Schweizerbart'sche Verlagsbuchhandlung OHG Science publishers in 2009-2010; a corresponding announcement can be found in this newsletter.

**Other selected publications**

Djenchuraeva, R. et al. (2008) *Atlas of Economic Types of Ore Deposits in Kyrgyzstan*. IAGOD NG Ukraine guidebook at IGC (see IGC website for download)


More information on IAGOD members’ publications is available in the reports of the national group working groups, and commissions included in this newsletter.

**Other activities**

1) A new official IAGOD website [www.iagod.org](http://www.iagod.org) has been launched at the end of 2008.

2) IAGOD has big losses in 2008. Prof. Jan Kutina, Prof. Nikolai Shilo, Dr. Jaroslav Aichler, Prof. Ludwig Baumann, and Prof. Nataly Patyk-Kara have passed away this year. All of them were long-time active IAGOD members, and it is IAGOD’s debt to the deceased to continue their work.

3) Prof. Franco Pirajno (Australia) was approved as IAGOD Traveling Lecturer 2008-2009. His lecture tour was arranged for the end of November – beginning of December 2008 and included lectures in London, Moscow, Novosibirsk, and Beijing.

4). A new working group on energy aspects of ore-forming systems is in the process of organization.

**Association finances**

IAGOD aims to keep membership dues (currently 10.- Euro for individual members) as low as possible to enable scientists from the developing and poor countries to join the Association. Other sources of income are from book sales, occasional newsletter advertising, meeting sponsorship or surplus from symposia.

IAGOD transferred its accounts from the USA to Germany in early 2005. The new treasurer has undertaken a major drive to collect back dues from members, with some degree of success. A brief summary of association finances is appended.

IAGOD last received a grant from IUGS in 2003. This enabled membership of the following national groups to be subsidized: IAGOD National Group of Georgia, IAGOD National Group of Kyrgyzstan, IAGOD National Group of Tajik Republic, IAGOD National Group of Uzbekistan, IAGOD National Group of Mongolia.
## FINANCIAL REPORT
### December 2007 to December 2008

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<th>Description</th>
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<td><strong>Balance December 2007</strong></td>
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<td><strong>CERCAMS (Reimar Seltmann)</strong></td>
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<td>(return of cancelled exhibition booth fee, 33rd IGC)</td>
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<td><strong>Travel support Nigel Cook Trip to Czech Republic</strong></td>
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<td><strong>Franco Piranjo</strong></td>
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<td><strong>Returns of interest</strong></td>
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*Contributed by Privat-Dozent Dr. habil. Thomas Seifert  IAGOD Chief Treasurer & Membership secretary*
OBITUARIES

In memory of Ludwig Baumann (1929 – 2008)

On the 15th November 2008, the German geological community lost one of its most brilliant members. Professor Ludwig Baumann was born on the 22nd March 1929 in Aue, Saxony, Germany. He studied mining and geology at the Faculty of Natural Sciences of the Bergakademie Freiberg, Germany (1948-1953). From 1953-1957 he worked as scientific assistant at the Department of Economic Geology of the Bergakademie Freiberg under Prof. Dr. O. W. Oelsner. Ludwig Baumann received the degree of ‘Doctor rerum naturalium’ in Economic Geology in 1957.

He became the chief geologist of the head office “Ore Mining” of the mining industry of the former G.D.R. and the chief geologist of the Freiberg Pb-Zn-Ag mining company (1957 - 1963). Ludwig Baumann finished his habilitation degree in economic geology in 1964 and became in 1966 a full Professor in Economic Geology and Metallogeny and the head of the Department of Economic Geology at the Bergakademie Freiberg. In 1967 Ludwig Baumann was a visiting Professor at St. Andrews University, Scotland, UK.

From 1974-1989 Ludwig Baumann was the editor of the Topical Reports of IAGOD - Problems of Paragenesis. He was member of the Organizing Committees of the International Geological Congress 1968 in Prague and of the MAWAM symposium 1974 in Karlovy Vary and Cleremont-Ferrand/Paris.

During 40 years at the Bergakademie Freiberg, he was the principal advisor for about 130 diploma projects and 59 theses. During his career he published over 200 papers, books, and monographs dealing with the metallogeny, geology, mineralogy, and geochemistry of ore deposits, as well as ore microscopcy. He became Professor Emeritus in 1994, but, in "retirement", he continued to publish the results of his research. For example, in 2000, he published the first book summarizing all known information about mining districts and ore deposit types within the Erzgebirge metallogenetic province.

Prof. Ludwig Baumann has worked for the science community not only as a teacher, researcher and leader of different teams and projects but also as an active member of professional organizations and societies. In recognition of his outstanding career and service to IAGOD as editor of the Topical Reports of IAGOD Ludwig Baumann was awarded Honorary Life Membership of the association.

Selected references:


Contributed by Privat-Dozent Dr. habil. Thomas Seifert IAGOD Chief Treasurer & Membership secretary
In memory of Igor Golovanov (1933-2008)

Igor Mikhailovich Golovanov sadly passed away on 18 December 2008 after a prolonged illness. He was a well-known scientist specialised in the geology of mineral deposits and metallogeny, Laureate of the State Award, leading researcher at the Institute of Mineral Resources of the State Committee of Geology of the Republic of Uzbekistan, Doctor of Geological-Mineralogical sciences and a Professor.

After his graduation in 1956 from the geological faculty at the SAGU, Igor Golovanov joined the IGiGAN of the Uzbek Republic where he worked for nearly 20 years. His scientific career started with research on the oxidation zones at the Kurgashinkan lead-zinc and the Kal'makyr porphyry copper deposits. During his research he discovered and described a number of new mineral types. Collected materials on the mineralogy and geochemistry of the hypogene zone of the Kurgashinkan base-metal deposit formed the basis for his PhD thesis, which he defended in 1961. Research results of copper porphyry deposits are described in detail in monographs and a series of articles, and are also summarised in his Doctoral dissertation on "Endogenic copper-bearing formations of Uzbekistan" (1974). Study of copper deposits of Uzbekistan and Central Asia was the main research focus of Igor Golovanov for a long period of time. He compiled a new classification of copper formations of the region and offered a global classification of mineral geochemical types of porphyry copper formation according to the principle of productive paragenesis. This scientific topic was discussed in his numerous monographs and publications in national editions, as well as in those published outside Uzbekistan. In these works, he established - for the first time - a close link between copper and gold and silver in copper deposits, and also the indicative role of vein copper formation for the discovery of hidden porphyry copper mineralisation. The concept is used for prospecting, evaluation and exploration and modelling of mineral deposits of Central Asia.

In April 1976 Igor Golovanov was invited to SAIGIMS to take up a position as the Head of Department of Geology of Mineral Resources. He continued publishing, participated in conferences in Uzbekistan and beyond. He became the curator on copper of Uzbekistan and carried out work on implementation of deep prospecting criteria of copper mineralisation in Middle Tien-Shan. Igor Golovanov provided curatorial assistance to different industrial enterprises of the Republic, including Almalyk, Kokpatas and other geological expeditions. Since 1985 Igor Golovanov became the Deputy Director of Science, holding responsibilities of the Director of the Institute of Mineral Resources (IMR). In 2002 he led scientific work in the sector of regional geology. Igor Golovanov established a scientific school on prospecting-exploration evaluation of mineral resources, based on the ore-formation analyses and models of ore deposits. By working on mineralogical-geochemical prospecting criteria of lead-zinc, copper, tungsten and gold deposits, Igor Golovanov developed - for the first time - modelling of ore deposits in Central Asia and brought significant input into understanding of the geodynamic minerageny of the region. Results of these researches are now successfully used by geologists at geological enterprises. Igor Golovanov actively participated in the international programme of making a Paleogeographic Atlas of Central Asia, for which he prepared mineragenic and tectonic maps and a map of mineral resources. Until his last days Igor Golovanov worked on the "Atlas of models of ore deposits of Uzbekistan", but sadly his illness did not allow him to complete this work.

Five PhD theses were written and defended under his supervision. He was a member of specialised scientific boards, including the editorial board of the journal of "Geology and Mineral Resources", and was also editor of numerous volumes and monographs. In 1986, Igor Golovanov was awarded a Professor title in "Geology, prospecting and exploration of metal and non-metal mineral deposits".

His active and fruitful career was recognised with the medal "For valiant work", accolades "For services in exploration" and "Honours in exploration" and diplomas of the Ministry of Geology. For implementation of scientific results into industry, compilation of base of mineral resource of the Almalyk mining-metallurgic combine, Igor Golovanov and his colleagues were awarded the State Award in 1988.

Fond memories of Igor Mikhailovich Golovanov, a remarkable scientist and human being, will stay in the hearts of his colleagues, students and all people who knew and worked with him.

Contributed by Prof. Rustam Koneev
In memory of Allen Van Heyl Jr. (1918-2008)

A leading economic mineralogist and geologist, dedicated naturalist, unofficial ambassador for the exchange of scientific information and goodwill, friend, and dad has passed away at Exempla Lutheran Hospice in Wheat Ridge near his longtime home in Evergreen on Oct. 24 after briefly contracting pneumonia. He was 90.

Allen worked as an economic geologist for the U.S. Geological Survey for the majority of his career. He managed the Central Mineral Resources branch of the U.S. Geological Survey in Washington, D.C., before moving his family in 1968 to Evergreen. For many years he was the U.S. government's authority on lead, zinc, silver, chrome and nickel deposits. His expertise was mineralogy, ore deposits and structural geology. He was the author of more than 230 technical papers, and discovered two mineral species. The mineral Aheylite was named in his honor. His knowledge of the fault systems and the history of dangerous earthquakes in the Midwestern United States was used to help promote and establish the USGS Eastern Earthquakes Branch, which monitors the area. During the Cold War, the U.S. government used him many times as an unofficial ambassador of scientific cooperation and goodwill making trips to most of the iron curtain countries of the time, as well as a host for scientific delegations visiting the U.S.

Born on April 10, 1918, he survived scarlet fever at age 1. He was the youngest of three sons of Allen Van and Emma Kleppinger Heyl, and his childhood was spent in Allentown, Pa., where Allen learned his love of the natural world and history from his father and other family members. Allen was a member of the Boy Scouts of America and was proud to be an Explorer Scout and Eagle Scout. Allen first attended Muhlenberg College in 1936 and transferred to Penn State University in 1937. He graduated from Penn State University with a bachelor of science degree in 1941.

From 1942 to 1947, he worked for the U.S. Geological Survey in southwest Wisconsin to help map and find the much-needed lead and zinc deposits for the war effort. It was there he met on a blind date his future wife, Maxine (Mickey), while she was attending Platteville State Teachers College to get her teaching degree. They were married in a small ceremony in Platteville, Wis., on July 12, 1945. Allen received his doctorate in mineralogy from Princeton University in 1950.

He was a member of numerous societies, including the Society of Economic Geologists, the Geological Society of America, the Mineralogical Society of America, Rocky Mountain Association Of Geologists, Evergreen Naturalists, the National Audubon Society, Colorado Railroad Society, founding member of Friends of Mineralogy for the Colorado and Pennsylvania chapters, the International Association for the Genesis of Ore Deposits, Colorado Scientific Society, Geologic Society of Nevada, chairman for the International Commission on Tectonics of Ore Deposits, and a fellow in the Institute of Materials, Minerals, and Mining in London, and Sigma Xi. He has been listed since the early 1970s in Who's Who.

Throughout Allen's life, his enthusiasm and superb memory served him well: seeing one of the last of the Atlantic gray whales in Newfoundland in the late 1930s, going to see the Hindenburg zeppelin, enjoying the jazz clubs of Harlem, photographing and saving rare wildflowers that were about to be destroyed, remembering the history and locations of mineral occurrences, taking short conversations with Albert Einstein at Princeton, studying animals and birds, collecting butterflies, visiting historical sites, steam train rides, and recounting family oral histories.
In memory of Jan Kutina (1924-2008)

Dr. Jan Kutina passed away on August 14th 2008 at Holy Cross Hospital in Maryland, USA. He had a long and distinguished career and is mostly known for his international work in ore deposit and metallogenic research through the International Association of the Genesis of Ore Deposits (IAGOD). He published hundreds of publications on numerous subjects and has had a major impact on the way the geologic community views the global distribution of ore deposits.

Jan was born in 1924 in Prague. He completed his studies at the Charles University in Prague in 1949 with the degree in Science (RNDr, Rerum Naturalium Doctor) and Pharmacy (PhMr, Magister of Pharmacy). He received the title CSc (equivalent of PhD) from the Charles University in 1957. In 2001, he was awarded the title DrSc (Doctor of Science) from the Academy of Science of the Czech Republic. In 1962 he served as Vice-Dean of the Faculty of Science of the Charles University.

Kutina’s dissertation work for the RNDr degree dealt with the ore geochemistry of ore veins in the Kutná Hora district in Central Bohemia. In addition to this, his early research work dealt with crystallography (teramethylol-cyclopentanon, miargyrite). His main studies in Czechoslovakia were focused on the veins in the Příbram Pb-Zn district in Central Bohemia, where he described and interpreted a complex evolution of infilling in ore veins. He contributed to the interpretation of coccade textures of ore veins in general. He also studied colloform textures of zinc sulfides. Significant is his contribution to the classification of zoning in hydrothermal ore deposits in which he defined monoascendent and polyascendent zoning.

In 1963 he was Chairman of the international symposium “Problems of Post-magmatic Ore Deposition”, held in Prague and attended by about 300 scientists. This meeting focused on the zoning within ore deposits and within ore fields. The conference also resulted in several articles in Economic Geology, in World Mining and two symposium volumes that were published by the Czechoslovak Academy of Sciences.

The idea for a new international association was first put forward at the 1963 meeting in Prague, and between 1964 and 1965, he helped organize the International Association on the Genesis of Ore Deposits (IAGOD), working closely with Prof. C.F. Park, Earl Inversion, H.L. Barnes, V.I. Smirnov and D.S. Korzhinskii and other scientists. He served as Secretary General of the IAGOD from 1964 to 1969 and later was chairman of the IAGOD Commission on Tectonics of Ore Deposits (CTOD) and the Working Group of Global Tectonic and Metallogeny.

Until 1968 Jan Kutina held an Associate Professorship at Charles University, Prague, Czechoslovakia. He first came to the United States in 1968 at the invitation of Lehigh University in Bethlehem, Pennsylvania. In September, 1976 he received permanent residence in the USA and in May, 1980, became a naturalized US citizen. After publishing the paper “Hydrothermal Ore Deposits in the Western United States: A New Concept of Structural Control of Distribution” in the journal Science (vol.165, p.1113-1119), Jan was invited by the Geological Survey of Canada, Ottawa, to study structural control of ore deposits in the Abitibi area of the Canadian Shield.

Since, 1968 Jan Kutina conducted systematic studies of the relations among metallogeny and deep tectonics. His experience was based on investigations conducted during mineral exploration programs by the United Nations, Bethlehem Steel Corp., Geological Survey of Canada, W.A. Bowes, Inc., and the United States Geological Survey. During the period between 1977 and 1980 he was Principal Investigator of a metallogenic project sponsored by the National Science Foundation that resulted in a number of publications.
Jan Kutina compiled mineral prognosis maps for parts of twenty countries. Two of these maps helped in new mineral discoveries, the first a nickel deposit in Burundi, and the second a Cu-Mo porphyry discovery in Nevada. Additional several other mineral discoveries resulted from his work.

He held academic positions at universities in Czechoslovakia, United States, and Japan as well as research and associate/visiting Professor positions through individual invitations from several countries. Since 1980 Jan Kutina was a Research Professor at the American University where he taught Earth Sciences and developed a Laboratory of Global Tectonics and Metallogeny within the Chemistry Department. In conjunction with the Laboratory of Global Tectonics and Metallogeny, he was the Chief Editor of the international journal “Global Tectonics and Metallogeny”, published by the E. Schweizerbartsche Verlagsbuchhandlung in Stuttgart, Germany. He also held a faculty appointment with the U.S. Geological Survey, Reston Virginia.

In the years 1985 to 1988 he was Principal Investigator, together with Dr. Mohammed Bensaid, Director Geological Survey of Morocco, of the project “Block Structures of the Lithosphere and its Role in the Genesis and Distribution of Metallic ore Deposits”, which was funded by the Agency of International Development.

He co-chaired with A.V. Heyl an international project “Parameters Controlling the distribution of Large Ore Deposits, Ore Clusters, Mineral Belts and Metallogenic Provinces”, which held workshops in New Mexico, Sweden and Washington D.C at the 1989 International Geological Congress in Washington, D.C.

Jan Kutina was also much involved in another project (IGCP project No. 354 “Economic Superaccumulations of Metals in the Lithosphere”), with workshops in the United States, China, Venezuela, Australia and Great Britain. The project, administered by the Chinese Academy of Geological Sciences in 1995-2001, revealed that (1) deep lithospheric structures have played a major role in the genesis and distribution of giant and supergiant concentrations of metals in the crust, and (2) that large ore clusters formed over long periods of time by successive stages of mineralization.

Jan was made an Honorary Life member of IAGOD in 1994. He remained active in international congresses within the IAGOD/CTOD Working Group of global Tectonics and Metallogeny until his death. He prepared, jointly with Dr. Patrick T. Taylor of the NASA Goddard Space Flight Center (Geodynamics Branch), the international workshop: “Deep Structure of the Earth and Concentration of Metals in the Lithosphere: A Geodynamic Approach” with a discussion on “New Ways of Mineral Exploration” held in September 18-20, 2001 at the Goddard Center.

Jan Kutina was a member of nine of the most outstanding national (British, French, German, Brazilian, and the United States) and international scientific geologic societies and was given the honor of being elected to Honorary Membership of several societies. He spoke fluent English, Czech, German and Russian. Jan Kutina worked closely with his many friends around the world, notably Academician Pei Rongfu, Beijing, and recently with Angela Craciun of the World Mineralogy Organization.

Jan Kutina has been the recipient of countless awards and accolades from every part of the world. We were privileged to have witnessed and to have been associated with parts of the important and productive career of a great scientist. Jan is survived by his wife and son in Prague and his daughter, who lives in Toronto.

Selected bibliography


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Kutina, J., 2003. Geochemical health hazards above the intersections of orogenic belts by deep-rooted structural discontinuities, and in areas adjacent to orogenic belts: Example from the Appalachians. Global Tectonics and Metallogeny 8, 183-205.


Contributed by Stephen Peters, Miroslav Stemprek, Nigel Cook
In memory of Natalia Patyk-Kara (1938-2008)

Dr. Natalia Patyk-Kara died suddenly on the 29th October 2008. Dr. Patyk-Kara was an outstanding scientist and a recognized leader in the fields of the geology of placer deposits of continents and continental shelves, the geology of fluvial palaeochannels and the exploration and evaluation of estimation placer deposits, including geochemical methods.

Dr. Patyk-Kara was born on the 20th May 1938 in Moscow. She graduated with honors from the chair of geomorphology of the geographical faculty of Lomonosov Moscow State University, and continued working there up until 1968, as well as during the period from 1975 to 1979. From 1968 to 1975, as a member of All-Russian Scientific-Research Institute of Mineral Resources named after N.M. Fedorovsky, she carried out research on tin deposits in the North-East of Russia. She defended her Ph.D. thesis on the geomorphology of Mal'yi Khingan in 1966, and in 1983 - doctoral (‘full doctor’) thesis on the problems connected with geology-geomorphology of placer deposits of Northern - Eastern Asia.

Natalia Patyk-Kara began her work at IGEM RAS in 1987 within a newly-created group of placer deposit geologists under the supervision of Academician Nikolay Shilo. The subsequent scientific activity of Dr. Patyk-Kara was connected with this group, often in close co-operation with Nikolay Shilo. She worked on the development of the theoretical basis for placer deposit formation, in keeping with the high level and tradition of the Russian school of placer deposit geology.

Her most valuable contributions were investigations of rare metal placers, in particular placers of titanium and zirconium in continental areas and on the Pacific Ocean shelf. She contributed to understanding the processes of placer formation and evolution and the methodology for prognosis of placer deposits. She developed a theory for the zoning of placer deposits and a methodology for the numeral modeling of placer-forming processes. These have been widely applied in both scientific research and in solving practical tasks for prognosis and estimation of placer deposits. Dr. Patyk-Kara developed a method of morphostructural and palaeogeographical analysis, proved genetic models of formation and criteria for the prognosis of large and superlarge placer deposits. She also created a basis for the geochemical prognosis of shelf placers, formulated the principals of industrial classification of placer deposits, as well as the basis for typification and mineralogical analysis of placer regions and provinces. The sphere of the scientific interests of Dr. Patyk-Kara were not only the whole territory of Russia and CIS countries, but also the largest placer-bearing provinces in the world: Canada, Australia, India, China and Southern Africa.

Natalia Patyk–Kara had maximum recognition as a leading specialist in placer geology among domestic scientists, as well as those in the international geological community. She became Deputy Leader of the placer section of the Scientific Council on Ore Formation in 1983 and was a member of the “Shelf” working group in the Commission on World Ocean problems, a member of specialized committees for thesis examination at IGEM and IMGRE, Chairman of the Committee on Quaternary minerals of the International Association INQUA and Scientific Secretary of the IAGOD Commission on Placer Deposits.

Until the final day of her life, Natalia Georgievna was the head and an active participant of International Geoscience Programme (IGCP) Project 514 “Fluvial Palaeo-Systems: Evolution And Mineral Deposits”. Within the framework of this project, she organized conferences in Perm and Saint Petersburg (2005), in Trivandrum, India (2007), as well as scientific sessions at the Australian Earth Science Convention (2006), 12th IAGOD Quadrennial Symposium (Moscow, 2006), 33rd International Geological Congress (Oslo, 2008), as well as many others scientific events.
Natalia Patyk-Kara was an Associate Editor of the journal “Lithology and Mineral Resources”, an “Honorable explorer of the earth” (1998), “Excellent explorer of the earth” (2006), author of about 300 published papers – both domestic and international - and including 6 monographs. She also taught many young scientists who will continue the traditions of the domestic school of placer geology, which had been led over the last decade by Academician Nikolai Shilo and Dr. Natalia Patyk-Kara. The work of Dr. Natalia Patyk-Kara and Academician Nikolai Shilo will be continued by their successors.

Selected bibliography


Patyk-Kara Natalia G; Spasskaya Irina. (2002): Late Cenozoic reconfiguration of low order fluvial channels under conditions of crystal instability (NE of Asia). *Quaternaire Paris* 15, 129-134.


Contributed by Dr. Alexander V.Lalomov

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In memory of Nikolay Shilo (1913-2008)

Full member of Russian Academy of Sciences, USSR State Prize laureate, outstanding scientist in the field of ore geology, paleogeography, lithogenesis, founder of modern placer deposits doctrine, the leader of domestic school of placer geology and prominent organizer of Russian Science - Nikolay Alekseevich Shilo has passed away in the 96th year of his life on the 8th of June 2008.

Nikolay Alekseevich Shilo was born in Pyatigorsk city. He entered Leningrad Minining Institute, where he met U.A. Bilibin. That meeting determined his further creative path which was marked by an unselfish devotion to geology, metallogeny and the search for placer deposits.

The mineral-resources base of gold, tin and many other types of minerals was created in the North-East of the country during the 1930’s. N.A. Shilo began his activity in industry exactly at that place, starting from his role as a foreman-geologist and making his way up to Academician and then Chairman of Far East Branch of USSR Academy of Sciences.

The entire creative career of N.A. Shilo was marked by two characteristic features: on the one side, he was a prominent theorist and an expert, a founder of modern school of placer geology, and on the other – he was an excellent organizer of science and industry in the East of the country, where his name is forever connected with the creation and development of many scientific and industrial organizations, mainly, on the territory of Magadan region (VNII-1, SVKNNII, Magadan Branch of TINRO, Institute of Radio cosmophysics, Magadan Branch of Khabarovsk Polytechnic Institute, Anadyr expedition), and also in Far East in general, where he had been one of the organizers and then Chairman of Far East branch of USSR Academy of Sciences. (1978-1985)

The range of N.A. Shilo’s scientific interests was highly extensive and were always was on the edge of main problems of geological science. However, his main work during 60 years was development and improvement theory and practice of placer deposit geology. Since 1987, N.A. Shilo led the Placer Group of IGEM RAS, which under his supervision became the coordinating center of Russian science concerning placers. The Group coordinated works on placer geology in the framework of the scientific program “Regularities of accommodation of mineral deposits” in the RAS. N.A. Shilo formulated concepts about placer formation, and the geological controls on ore formation, considerably developed genetic and morphogenetic classification of placers, proved the significance of tectonic –geomorphologic evolution of territories for placer-forming process, suggested a systematization of placer-forming minerals on the basis of hypergene stability constants, allowing an approach to quantitative evaluation of placer-forming processes, extended and deepened the theory of continental lithogenesis. Together, these represent the fundamental basis of placer deposit exploration. Due to his work, the doctrine of placer formation became an important part in the system of Earth sciences.

Many of the scientific ideas of N.A. Shilo expressed as applications to placer geology, also had fundamental significance for adjacent fields of Earth sciences, for example, for reconstruction of nature evolution in Pleistocene, for issues concerning the continental bridge between Eurasia and America, and for the geological history of Arctic and Northern sectors of Pacific basins.

The Russian scientific school of placer geology developed thanks to N.A. Shilo’s supervision across several decades. The fruitful results of research by N.A. Shilo and his team had been - and in future will be - the basis for the direction of exploration of placers and ore deposits in Kolyma, Kamchatka, Primorsky, Yakutya, Amursky and other regions. Due to long-term researches of N.A. Shilo and his followers, placers deposits occupy an outstanding position among mineral deposits.

N.A. Shilo’s contribution to studies of geodynamic and metallogeny of volcanogenic belts is very high, especially in the Pacific system of near-continental volcanogenic belts with their Au-Ag- and Ag-
metallogenic specialization. He suggested a new magma-fluid-gas model of this planetary system connected to the single source functioning from Cretaceous top mantle abyssal zone of Pacific segment.

N.A. Shilo was a laureate of USSR State Prize, a hero of socialist labor, a member of the New York Academy of Sciences, a doctor of Honoris causa Ohio University and a honorable citizen of Winnipeg city, Canada. He was also a full member of Russian Academy of Sciences, a counselor of Presidium RAS, a deputy chief editor of the journal “Pacific Geology”.

The last extremely active period of academician N.A. Shilo, within the walls of IGEM RAS, was marked by the publication of the new edition of the fundamental monograph “Placers Doctrine” (2002), three volumes of “Geologist’ Notes” (2007), new theory of the genesis of the Witwatersrand gold-bearing conglomerate deposits (2007) and the development of a totally new approach to geology of ore deposits – physical conception of ore genesis based on paragenesises of ore deposits at nuclear-electronic level.

N.A. Shilo’s achievements entered the golden foundation of Russian science.
REPORTS OF IAGOD NATIONAL GROUPS

Report of the Russian IAGOD National Group

Scientific meetings organized by the members of Russian IAGOD group

1. The International Geological Forum «Gold of the North Pacific Rim» was held in Magadan 10-14th September 2008. The Forum was organized by the Government of the Magadan Region, Magadan Branch of the Russian Geological Society "RosGeo", and North-East Interdisciplinary Scientific Research Institute of the Russian Academy of Science (NEISRI RAS). IAGOD, SEG, and CERCAMS were co-organizers of the event. It was dedicated to the 80th anniversary of the First Colymian Expedition headed by Yury Bilibin.

Four sections were presented at the Convention:

- Mesothermal gold deposits
- Gold metallogeny
- Gold placers: problems of geology and mining
- Problems of gold deposit exploration
- Ecological issues

Fundamental problems of gold resources, metallogeny, genesis and physicochemical conditions of mineralization were reported at the plenary session:

- Hedenquist, J.W. Porphyry to epithermal transition: Lithocaps and high-sulphidation deposits form on the shoulders of porphyry systems.
- Cox, D.P., Berger, V.I., Moring, B.C. The distribution of selected pluton-related mineral deposits of the Pacific Rim.
- Safonov, Yu. G. Spatial-genetic relationships between gold lodes and magmatic intrusions.
- Volkov, A. V., Sidorov, A. A. Large deposits of gold and silver of Northeast of Russia (genetic and exploration models).
- Bortnikov, N. S. Physical and chemical conditions of mesothermal gold deposit formation in the Russian North-East.
- Moiseenko, V. G. Gold geochemistry problems.
- Rebagliati, M.C., Lang, J.R., Payne, J.G., Roberts, K. The super-giant Pebble copper-gold-molybdenum porphyry deposit, southwest Alaska, USA.
- Mikhailov, B. K., Nekrasov, A. I., Vartanyan, S. S., Struzhkov, S. F. The replenishment prospects of gold resources in Russia.
- Lomakina, N.V. The resource-developing projects and the economics of the Russian Far East.
Ninety six oral presentations and 56 posters were contributed. The results of the Forum were summarized at round-table discussions.

Two pre- and post-conference field trips were available: (1) gold deposits Natalka, Degdekan, and Pavlik, and (2) deposits Dukat (Ag), Nevskoye (Sn), and Karamken (Ag).

2. XIII Thermobarogeochemical Conference, along with the IV APIFIS Symposium took place 20th-24th September in Moscow in honor of the 1025th anniversary of Abu Aly Raichan Beruny, the 95th anniversary of N.P. Ermakov, the 90th anniversary of E. Roedder, and the 150th anniversary of H.C. Sorby’s classic publications. The Conference was organized in the Institute of Geology of Ore Deposits (IGEM RAS) by IGEM, Moscow State University (MSU), and the Vernadsky Institute of Geochemistry and Analytical Chemistry (GEOKhI) under the aegis of Russian Academy of Sciences (RAS), Federal Agency for Education (FAE), Russian foundation for basic research (RFBR), Russian Mineralogical Society (RMO), and IAGOD.

Over 150 participants from 28 cities and 19 countries attended the Conference with 139 presentations (6 plenary, 50 oral, and 73 posters). Plenary presentations concerned:

- Borisenko A.S., Borovikov A.A., Pavlova G.G. Magmatogene fluids: special features of composition and metal-bearing capacity
- Heinrich C.A. Dynamic P-T-X evolution of saline fluids in ore-forming magmatic-hydrothermal systems
- Scott S.D. Melt inclusions and vesicles as indicators of metal-rich ore fluid generation in modern and ancient hydrothermal systems
- Bortnikov N.S., Simonov V.A. Fluid inclusions – a source of the direct information on evolution in space and in time of physicochemical parameters of submarine hydrothermal ore-forming systems

Eight sessions covered the most crucial problems of cutting edge science of fluid inclusions:

- Methods and analytical techniques for fluid inclusion studies
- Fluid inclusions in magmatic minerals as indicators of magmas generation conditions and evolution
- Fluids in metamorphic rocks
- Fluid regime of hydrothermal ore-forming systems
- Fluid inclusions in sedimentary and diagenetic minerals
- Organic material in fluids
- Fluid inclusions in synthetic minerals
- IGCP-540 session “Fluids of orogenic Au deposits”

On the results of the Conference, 9 prizes were awarded for poster presentations, as well as prizes for the best oral presentation by a young specialist, and the most artistic presentation. The prizes were sponsored by Intergen Ltd and Intertech Corporation.
Prof. Steven Scott (left) in discussion with the Director of IGEM Acad. Nikolay Bortnikov (right).

Bringing together points of view in a comfortable atmosphere: Prof. Christoph Heinrich (left) with his Russian colleague (right).

3. Presentation of IAGOD lecturer Dr. Franco Pirajno (Geological Survey of Western Australia) “Tectonics and metallogeny of China; an overview”. The talk was held in the Central Scientific Research Institute for Base and Precious Metals (TsNIGRI), Moscow, 28th November 2008. It drew an audience of approximately 100 specialists interested in the topic.

Russian members of IAGOD also actively participated in the 33rd International Geological Congress held in Oslo 6-14th August. The Russian group occurred the most abundant one: 787 Russian geoscientists contributed in presentations (USA – 717 participants, Norway – 649, China – 494).

New publications


Contents:
Guidebook of IGM-IAGOD Field trips related to the International Symposium “Large Igneous Provinces of Asia, Mantle Plumes and Metallogeny”, 13-16th August 2007, Novosibirsk, Russia;
Part A: “Metallogeny of the Southeastern Altai (Russia) and Northwestern Mongolia Ore District, Permian-Triassic Boundary”, 2-12 August 2007;


New members
Eight new members have been affiliated to Russian National Group of IAGOD since 2007. Now its number reaches 170 persons – it is the largest National Group in IAGOD.

MIRONOV, Yuriy B., PhD., Head of laboratory of Geology of Uranium Deposits and Radioecology in Russian Geological Research Institute (VSEGEI); 74, Sredniy prospect, 199106, St-Petersburg, Russia; tel: +7-(812)-328-9101; fax: +7-(812)-328-9118; e-mail: ogumr@vsegei.ru; Co-chairman of the International Uranium Group (IUG); range of interest: geology, metallurgy of uranium deposits.

LOBAEV, Vladimir M., PhD, Senior researcher, Uranium Geology Department, VSEGEI, 74, Sredniy prospect, 199106, St-Petersburg, Russia; tel: +7-(812)-321-9181; fax: +7-(812)-328-9118; e-mail: Vladimir_Lobaev@vsegei.ru; Secretary of the International Uranium Group (IUG); range of interest: geology, mineralogy, geochemistry of uranium deposits.

PLOTINSKAYA Olga Yu., PhD., research associate, Laboratory of Ore Deposits in the Institute of Geology of Ore Deposits (IGEM RAS); 35 Staromonetny per, 119017 Moscow, Russia; tel: +7-(499)-230-8244; fax: +7-(495)-951-1587; e-mail: plotin@igem.ru.

ISHEVSKAYA, Elga G., PhD, senior research associate in the All-Russian Institute of Mineral Resources (VIMS); 31 Staromonetny per, 119017 Moscow, Russia; tel: +7-(495)-950-3339; fax: +7-(495)-959-3447; e-mail: aleshin@igem.ru; range of interest: geology of ore deposits, geochemistry.

KRYLOVA, Tatiana L., PhD., senior research associate, Institute of Geology of Ore Deposits (IGEM RAS); 35 Staromonetny per, 119017 Moscow, Russia; tel: +7-(499)-230-8270; fax: +7-(495)-951-1587; e-mail: ktl@igem.ru; t-krylova@yandex.ru; range of interest: fluid inclusion study, physicochemical conditions of ore formation.

MALKOVSKY, Victor I., Dr.Sci. in physics and mathematics, Head of modeling group, Institute of Geology of Ore Deposits (IGEM RAS); 35 Staromonetny per, 119017 Moscow, Russia; tel: +7-(499)-230-8440; fax: +7-(495)-951-1587; e-mail: malk@igem.ru; range of interest: mathematical geology, physical chemistry, hydrology, numerical methods.

REDKIN, Alexander F., PhD, senior research associate in the Institute of Experimental Mineralogy (IEM); 115, Institutsky prospect. 3, Chernogolovka, 142432 Moscow oblast, Russia; tel: +7-(496)-522-3618; fax: +7-(096)-524-4425; e-mail: redkin@iem.ac.ru; range of interest: solubility of ore-bearing minerals, adsorption on mineral surfaces, thermodynamic simulations of equilibrium in multicomponent systems.

TARASOV, Nikolay N., PhD, leading research associate Head of Uranium Geology group, Laboratory of Radiogeology and Radiogeocology, Institute of Geology of Ore Deposits (IGEM RAS); 35 Staromonetny per, 119017 Moscow, Russia; tel: +7-(499)-230-8428; fax: +7-(495)-951-1587; e-mail: tmn@igem.ru; range of interest: geology, ore controls and genesis of uranium deposits.

Our losses

Four members of Russian IAGOD group passed away in 2007-2008:

RUSINOV, Vladimir L., full Dr., Institute of Geology of Ore Deposits (IGEM RAS), Moscow;

SHILO, Nikolay A., Chairman of the Commission on Placer Deposits, academican, Institute of Geology of Ore Deposits (IGEM RAS), Moscow;

PATYK-KARA, Natalia G., Secretary of the Commission on Placer Deposits, full Dr., Institute of Geology of Ore Deposits (IGEM RAS), Moscow;

KOKORIN, Anatoly M., PhD, Far East Geological Institute (FEGI RAS), Vladovostok

Planned activities for 2009

1. Participation in the Global Uranium Symposium 9-13\textsuperscript{th} May 2009 (Keystone, USA) and in the 10\textsuperscript{th} Biennial Meeting of SGA 17-20\textsuperscript{th} August 2009 (Townsville, Australia)
2. Organization of the Conference “Fluvial paleo-systems: evolution and mineral deposits” with a post-conference field excursion in Guilin (South China) under the aegis of Guilin Institute of Technology and Beijing Research Institute of Uranium Geology in 2009.
3. Regular seminars on metallogeny and genetic aspects of ore deposits for members of Russian NG and specialists interested in the problems. Two main objectives are pursued: (1) to share the cutting-edge experience among scientific society, especially in interdisciplinary areas, and (2) to involve young people
in geosciences related to genesis of ore deposits. The seminars will be announced prior to the events by mailing and posters in universities and institutes.

Four seminars are scheduled for 2009 in the Institute of Geology of Ore Deposits (IGEM RAS), Moscow:

- Magmatogeneous model of the formation of Mo-U deposits of the Streltsovsky ore field (Transbaikal region, Russia): new mineralogical-geochemical, physicochemical and experimental data – Aleshin A.P., Velichkin V.I., Krylova T.L. (IGEM RAS), Redkin A.F. (Institute of Experimental Mineralogy (IEM RAS), Cuney M. (University Henri Poincare (UHP), Nancy, France) – May 2009
- Geophysical studies in context of genesis of ore deposits – September 2009
  - On effectiveness of using regional geophysical data for prognosis of ore deposits. Cherkasov S.V., Vernadsky State Geological Museum (SGM RAS), Moscow
  - Capabilities of microseismic sounding for investigation of ore deposit structures. Gorbatikov A.V., Institute of the Earth’s Physics (IFZ RAS), Moscow
- New mineralogical-geochemical approaches to understanding of ore-forming capability of low-density hydrothermal fluids. Akinfiyev N.N., Distler V.V. (IGEM RAS), Moscow – October 2009
- Lithodynamic conditions of formation of heavy mineral placer deposits. Lalomov A.V. (IGEM RAS) – November 2009

4. Development of a bilingual (Russian/English) page of Russian NG on the website of IGEM RAS (www.igem.ru) for promotion of its activity, announcements, publications, etc.
5. Revision of Russian NG for update of the group number, contact information and activities of the members.

Contributed by Dr. Alexei Aleshin, Russian NG Group Secretary

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Report of the Russian Far East IAGOD Group

The Russian Far East IAGOD Group is a part of the National IAGOD Group of Russian Federation. The Group unites 19 members.

Membership:

Chashchin A.A. a.chashchin@mail.ru
Gonevchuk G.A. gonevchuk@fegi.ru, gonevchuk@hotmail.com
Gonevchuk V.G. gonevchuk@fegi.ru
Gvozdev V.I. gvozdev@fegi.ru
Ignatiev A.V. ignatiev@fegi.ru
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Pakhmova V.A. pakhmova@nm.ru
Plusnina L.P. makarovo38@mail.ru
Sakhno V.G. sakhno@fegi.ru
Sayadyan G.R. does not have an active address; it is possible to contact through gvozdev@fegi.ru
Semenjak B.I. SBI@yandex.ru
Kokorin A.M. had died in February 2008.
Tishkin B.M. has left the Institute in October 2008.
Now 19 members are in Russian Far East IAGOD Group.

Leadership:

Chairman of the Russian Far East IAGOD Group is the Academician A.I. Khanchuk.
The secretary of this Group is G.A. Gonevchuk.

25
Events:

In December 2008, the Far East Geological Institute (FEGI) has commemorated the 100th anniversary of its first director, E.A. Radkevich (1908-1994). Having been an eminent scientist, she was a great specialist in the field of genesis of ore deposits research. She took an active part in the organization of the International Association on the Genesis of Ore Deposits (IAGOD). In 1963, she attended the founding conference in Prague as a member of the USSR delegation.

Of prime importance in E.A. Radkevich’s research are works on the metallogeny of the Pacific belt: for many years she headed the Pacific Committee on Geology and Metallogeny. This problem is considered in more than half of her all publications, the list of which comprises 300 items, including 26 monographs. In commemoration to the date, a special festschrift was issued: “Pacific Ocean ore belt: data of new investigations” (for the centenary of E.A. Radkevich’s birth). The festschrift included articles with results of investigations of many members of Russian Group of IAGOD among which there are also members from Far East IAGOD Group.

A.I. Khanchuk and V.V. Ivanov participated in the 33rd International Geological Congress in Oslo, Norway (6-15 August, 2008). A.I. Khanchuk has presented a report which attracted great interest of the congress participants. Then at the session of the Executive Committee of IAGOD Council and General Assembly he has delegated his authorities of the IAGOD President to Nigel Cook for next 4 years.

In December A.I. Khanchuk was invited to visit Natural History Museum, London as a member of International Expert Team to examine scientific effectiveness of work of Department of Mineralogy.

Projects:

The Acad. A.I. Khanchuk took 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


The Pacific Ocean ore belt: data of new investigations
(for the centenary of E.A. Radkevich’s birth)

Part II «Around the Circum-Pacific» (in Russian)


The most important events and projects planned for 2009-2010
In September 2009, the Far East Geological Institute (FEGI) will celebrate 50 years from the date of its formation.

Contributed by the 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-letya, Vladivostok, 690022, t-mail: gonevchuk@hotmail.com or gonevchuk@fegi.ru

Contributed by Galina Gonevchuk, Far East Group Secretary
Report of the Kazakhstan National IAGOD Group for 2007-2008

Conference participation in 2007-2008 (IAGOD members participating with oral and poster presentation are indicated in brackets):


Participation in International Projects

Kazakhstan National IAGOD Group members O.A. Fedorenko and M.S. Rafailovich are coordinators of International Project “Geology, Geodynamics and Metallogeny of Central Eurasia”. They arranged a regular working meeting of countries-executors (Almaty, Kazakhstan, May 2007).

Organization of the international workshops

Alla Dolgopolova, active member of Kazakhstan National IAGOD Group, took part in organization of four workshops under Center for Russian and Central Eurasian Mineral Studies, Natural History Museum, London (CERCAMS):

CERCAMS-9 workshop "Metallogeny of Central Eurasian from Altaids to Uralides – Research in Progress”, 29-30 March 2007 (70 participants).

CERCAMS-10 workshop "Geodynamics and Metallogeny of Siberia", 11 October 2007 (35 participants).

CERCAMS-11 workshop "Metallogeny of the Tethysides: From the Balkans to Turkey", 28 April 2008 (45 participants).

CERCAMS-12 workshop "Metallogeny of Central Asia from Kazakhstan to Xinjiang – Research in Progress”, 25-26 November 2008 (40 participants).

Scientific monographs

Theoretical and methodological aspects of estimation of earth bowels are considered (metallogenic features, base model and mechanism of the ore forming, spatial distribution of ore objects). The technology and organization of geological forecasting are described. The preconditions of prognosis and searches of mineral deposits on the base of geochemical mapping are discussed. The specific methods of formalistic description of geological setting properties and aerocosmic data and recommendations concerning to evaluation of insufficiently explored mineral fields are adduced. Some results of prognostic and exploring investigations are considered on example of Ore Altay region (East Kazakhstan). 59 tables, 185 figures, 411 references.

Selected publications


Planned activities for 2009-2010

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 and Conferences (Kazakhstan, Russia, China and others).

3. Cooperation with other IAGOD National Groups (Kyrgyz, Uzbekistan, Russia 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 (February 2009)**

Chairman: Prof. Mikhail Rafailovich Scientific Institute of Natural Resources YUGGEO, Shevchenko Str., 162 zh, 050008, Almaty, Republic of Kazakhstan. Tel.: (7272) 684098; Fax: (7272) 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).

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

**List of e-mail address for members of Kazakhstan National IAGOD group**

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Report of the Mongolian national IAGOD group


**Workshops, symposia:**


Study Course for economists working in Geological Survey of Mongolia: December-January 2008- 45 days

Study Course for journalists sponsored by Ivanhoe Mines - November 2008 –Members of IAGOD presented lectures in Economic Geology.

Work in Organizing Committees for:

International Symposium “Geological Survey of Mongolia - 70 Years”.

Mongolia Mineral Exploration Roundup – 2009

**Participation in other international projects**


Altaiid metallogeny:t errane reconstruction. (Correlation of Geochemistry along the Central traverse in Mongolia) ( 2006-2008).

Mercury contamination in Selenge catchment (2006-2008)

PGE mineralization in ophiolite belts in Mongolia (2008-2010)

Rare metal granitic magmatism of the Central Asia folded belt (2008-2010)

Geomap-200. Members of IAGOD group are involved and are leaders of this ongoing project. Progress report of 1:200 000 map discussed and proved.

CCOP-USGS-CGS Mineral Resources Assessment Project (GMRAP)

**Participation in domestic projects (for Mining Companies)**

Mongolian mineral resources and feasibility study for investment – sponsored by Sumitomo company, Japan - 2008

Khandgait Mo porphyry deposit origin –CentralAsia Ltd - 2008

**Selected publications of IAGOD members:**


Membership: 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 Buiant 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. Todbileg (QGX Ltd.), D. Sharkhuukhen (M& Diamond Ltd.), D. Altanhuyag (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. Enkhutuvshin (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. Majiisuren (Mineralogical Museum, 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), Batseren 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), Batseren Soyolmaa (Geoscience Center, Mongolian University of Science & Technology), Sanjsuren Oyunbat (Geo-Info Co. Ltd., Mongolia), Namsraijav Baatar (Dept.of Mineral Exploration, MUST (Mongolian Alt Corporation, Mongolia), Naidansuren Tungalag, Institute of Geology & Mineral Resources, Mongolian Academy of Sciences, Rechnin Oyunchimeg, geologist, Ivanhoe Mines Mongolia

Contributed by Mongolian IAGOD Group chairwomen O. Gerel, 5 December 2008

Report of the Georgian national IAGOD group

Members of the Georgian National IAGOD Group

<table>
<thead>
<tr>
<th>Buadze, Vaja</th>
<th>Caucasian Institute of Mineral Resources</th>
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<tr>
<td>Gugushvili, Vladimir</td>
<td>Geological Institute</td>
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<td>Kekelia, Maren</td>
<td>Geological Institute</td>
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<td>Kekelia, Sergo</td>
<td>Geological Institute</td>
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<tr>
<td>Migineishvili, Ramaz</td>
<td>Geological Institute</td>
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</tbody>
</table>
Participation in National and International Projects:

S.Kekelia and M.Kekelia are leaders of the following two scientific projects:
- “Assessment of gold potential of south-western part of Georgia (Adjara-Trialeti fold zone)”. GNSF/ST07/5-202. 2008-2010

V.Gugushvili is a leader of the project entitled: “Gold copper-porphyry and epithermal low sulfidation gold mineralization of the Bolnisi ore district, ore formation and economical perspective”. GNSF Project №204. 2008-2010

R.Migineishvili participated in IGCP Project 502 “Global comparison of Volcanic-hosted sulphide districts: the controls on distribution and timing of the VMS deposits”, 2004-2008

Events and projects planned

In May 2009 a workshop will be held in Tbilisi. Scientists from Armenia, Azerbaijan, Georgia and Switzerland are going to discuss some metallogenic issues of the Southern Caucasus.

Contributed by Ramaz Migineishvili, chairman of the Georgian National IAGOD Group

Report of the Uzbekistan national IAGOD group

Members of the national group:
Koneev Rustam Ismailovich – professor, National University of Uzbekistan, rkoneev@yahoo.com;
Turamuratov Ilkhom Bekchanovich – PhD, State Geological Committee on geology and mineral resources, turamuratov@mail.ru;
Juraev Abduvali Juraevich – PhD, State Geological Committee on geology and mineral resources, juraev07@mail.ru;
Pirmazarov Majid Mahkamovich – PhD, Geological Information Centre;
Rustamov Asror Ikramovich - State Geological Committee on geology and mineral resources;
Divaev Farid Karibovich;
Isokov Maksud Uzakovich – PhD, Institute of Mineral Resources, mineral@cu.uz;
Tsyo Vladimir Den’evich – Doctor of geology, Institute of Mineral Resources, ytsoi@inbox.ru;
Akhundjanov Rakhmatjon – Doctor of petrography, Institute of Geology and Geophysics of Academy of Sciences of the Republic of Uzbekistan, rkn.akhundjanov@mail.ru;
Usmanov Akhror Islamovich – PhD, Institute of Geology and Geophysics of Academy of Sciences of the Republic of Uzbekistan;
Mamarakizikov Usman – PhD, Institute of Geology and Geophysics of Academy of Sciences of the Republic of Uzbekistan, ohusm@mail.ru;
Khalmatov Rustam Abdushatovich – PhD, National University of Uzbekistan;
Mun Yulia Sergeevna - PhD, National University of Uzbekistan;
Jukov Alexander Vladimirovich - PhD, National University of Uzbekistan; Kodirov Obid – Master, National University of Uzbekistan;

In comparison with the previous list of members (IAGOD Newsletter, 2003) I.M. Golovanov and K.L. Babaev have since sadly passed away; A.E. Antonov and V.V. Kozlov, Pankratov, Y.S. Savchuk left Tashkent. Other persons listed in 2003 have discontinued their membership.

**Chief of the group:** Koneev Rustam Ismailovich. Doctor of geology-mineralogical sciences, professor of “Mineralogy and geochemistry” chair of the geology faculty of National University of Uzbekistan named after Mirzo Ulugbek. He is a manager of “Micro- and nanomineralogy of natural and anthropogenic processes” laboratory, chairman of Mineralogical Society of Uzbekistan. The main directions of research are geochemistry, mineralogy, nanomineralogy and the regularities of formation of gold-bearing deposits, metallogeny of Uzbekistan. The group has published more than 170 publications. Contact information: tel. (+99871) 2463641, mobile (+99871) 1870754, e-mail: rkoneev@yahoo.com. Geology faculty, National University of Uzbekistan, VUZ-gorodok, Tashkent, 100174, Uzbekistan.

**Events:** During 2008, joint field works with Geological Survey of Czech Republic were conducted within the framework of the program: “Researches of platinum-bearing rocks and ores of gold deposits of Uzbekistan”. Sampled from Myutenbay, Amantaytau, Guzhumsay and other deposits were studied. Fieldwork was carried out from the 10th to 30th May. The group was composed of 5 persons. National University of Uzbekistan was an organizer of this field trip. 8 members of National group of Uzbekistan took part on the 33rd IGC, hold in Oslo, Norway in the composition of the delegation of National Committee of geologists of Uzbekistan. The members of the group gave oral and poster talks in the sessions MRD-07, MRD-10 and EGC-01. The main problems addressed were: metallogeny, ore deposits, mineralogy, geochemistry and the ecology of Uzbekistan.

**Projects:** Five members of the National group took part in IGCP-486 project “Au-Ag-telluride-selenide deposits”. Research into the distribution and the role of tellurides and selenides in gold-ore deposits of Uzbekistan is currently being undertaken.

**Publications:**


*Contributed by Prof. Rustam Koneev, Uzbekistan NG Chairman*
Report of the Ukrainian national IAGOD group

Main achievements

- “Methodic guide for assessment of perspective and prognostic resources in the solid mineral deposits” is created.
- Aiming development of reliable geological background for prognosis, prospecting and exploration of ore mineral deposits the following items are designed:
  - Correlation scheme of major Cenozoic stratigraphic subdivisions of Ukrainian Carpathians and adjacent territories (Romanian, Slovakian, and Polish Carpathians);
  - Geological map of pre-Quaternary sediments in the scale 1:1 000 000 for Carpathian-Dobrudjean-Crimean segment of Alpine Mediterranean Belt;
  - Guidebook of the 33rd IGC geological excursion devoted to the studies of greenstone belt in Ukraine;
  - Generalized mineralogical, petrographic, geochemical and age descriptions of main rock types of granitoid complexes of Pryazovian, Middle-Dniproan, Ingouletskiy and Rosynsko-Tykytskiy mega-blocs of Ukrainian Shield (together with the scientists of Kyiv Taras Shevchenko National University), as well as supplementary maps, sketches, cross-sections, colour photos of typical specimens and thin-sections, graphic and chart data;
  - Molybdenum mineralization is studied at Oleksiivska site of Chortomlytska greenstone structure, specifically, using microprobe analysis ore composition is determined, by means of thermobarogeochemical studies of fluid inclusion in minerals and detailed mineragraphic studies the ore formation succession and productive mineral assemblages are defined;
  - The sites for deep (0-300 m) drill-holes are defined (together with SE “Pivdengeologiya”); by drilling results detailed petrographic, electronic microscope and microprobe studies of rock-forming minerals from Dobropilskiy Complex are conducted; preliminary geological-formational cross-sections and maps in the scale 1:50 000 are designed;
  - The spatial by-layer models of Ingouletskiy mega-block deep structure are designed and genetic groups of ore mineralization as well as prospecting criteria for each group are defined;
  - For the first time in the junction zone of Volynskiy and Dnistersko-Buzkiy mega-blocks of Ukrainian Shield the spodumene pegmatites are encountered;
  - In 20 rock samples from Kapitanivskiy Massif (Middle Pobuzhzhya, Ukrainian Shield) metal rhenium content from 1.1 to 10.5 g/t is determined which corresponds to the economic values for possible new geological-economic ore type. The studies are performed in the Federal State Unitary Enterprise “Institute of Mineralogy, Geochemistry and Crystal Chemistry of Rare Elements (FSUE IMGRE, Moscow, Russia). At present the studies are temporarily suspended allocating for necessary financing. Following the control laboratory-analytical studied in laboratories of Department of Mineralogy, British Museum of Natural History and FSUE IMGRE, the thoughts arisen on the samples technogenic contamination with rhenium in view of its phase occurrence in fractures of the samples under study. Upon consulting with the scientists from the British Museum of Natural History during 33rd IGC in Oslo, the second-round studied of rhenium phases were conducted in the samples which did not undergo mechanic polishing (to avoid any external metal contamination). Rhenium phases are successfully identified in the edge portions of the plate cuts eliminating all doubts concerning non-natural
origin of rhenium phases in the rocks of Kapitanivskiy ultramafic massif. The special publication and report are underway which will be sent to the IAGOD secretariat follow-up.

- L.V.Isakov (Dnipropetrovsk Branch of UkrSGRI) has prepared Doctor of Sciences Theses “Geological-Tectonic Regularities of Granite Pegmatite Fields Formation in the Eastern-Ukrainian Pegmatite Region” (specialty 04.00.01 – General and Regional Geology); the Theses are accepted to be publicly defended in Lviv National University in 2009.

**Application of scientific results in the industry**

- Following recommendations of UkrSGRI (O.B.Bobrov, O.A.Lysenko, I.E.Merkushyn), the State Enterprise “Pivnichgeologiya” has drilled two deep prospecting boreholes to assess gold mineralization in the eastern flank of Chemerpilskiy ore prospect. By drilling results and geological-mineralogical studies it is accepted for application the drilling of two more deep prospecting-appraising drill-holes in the western and north-western flanks.

- The gold resources of Sorokynska and Berestovetska greenstone structures are approved (together with the State Enterprise “Kirovgeologiya”) by Ukrainian National Commission on Prognostic Mineral Resources (O.B.Bobrov, O.A.Lysenko, I.E.Merkushyn – UkrSGRI; O.M.Svatkov – SE “Kirovgeologiya”).

**Scientific-technical cooperation**

- At the IAGOD General Assembly (33rd IGC, Oslo, August 2008) O.B.Bobrov is elected for the IAGOD Vice-President.

- Development of the geological map and map of mineral resources for the mountain systems of Ukrainian Carpathians and Crimea is being conducted in the frames of International Project “Geology and Mineral Resources of Caucasus, Crimea and Carpathians” funded by the Stage Geological Survey of Ukraine;


- A.S.Voynovskiy, in cooperation with mapping geologists of Pravoberezhna Expedition of the State Enterprise “Pivnichgeologiya”, has conducted the studies on definition of petro- and geochemical criteria for subdivision and correlation of charnockitoids in Dnisterko-Buzkiy mega-block of Ukrainian Shield which are being used during extended geological study over map sheet M-35-XXXV (Gaivoron) and published in “Scientific Proceedings of UkrSGRI, 2008, No. 4”.

- In 2008, to participate in the 33rd International Geological Congress in Oslo (Norway), from the State Geological Survey of Ukraine the Delegation was composed including D.D.Mormul, M.V.Geichenko (SGSU), S.V.Goshovskiy, O.B.Bobrov, B.I.Malyuk, M.D.Krasnozhon (UkrSGRI). At the Section MRD-07 “Mineral Resources of CIS Countries” Ukrainian Delegation has presented report on the first finding of native rhenium in ultramafic rocks of Middle Pobuzhzhya region (O.B.Bobrov and others, speaker B.I.Malyuk).

- In 2008 the anniversaries of leading regional enterprises have been celebrated:
  - 60th anniversary of the State Enterprise “Kirovgeologiya”, the unit which in the domain of former Soviet Union, and Ukraine nowadays, comprises the history of formation and development of uranium mineral resources.
  - 60th anniversary of Prychornomorska State Regional Geological Enterprise ever since focusing on the Black Sea and Azov Sea off-shore petroleum prospecting as well as placer mineral deposits.

**Establishing new research directions**

In the reporting period UkrSGRI has prepared new project in the national scale entitled as “Creation the National Litho-Bank of Ukraine” to arrange all collected data on the main rock types and complexes of major geo-structures of Ukraine and principal types of contained mineral deposits.

The works will start in 2009 together with regional enterprises of the State Geological Survey of Ukraine and Institute of Geochemistry, Mineralogy and Ore Formation of National Academy of Sciences of Ukraine, and will include two linked directions:
• Development of technical tools for the Litho-Bank, and
• Filling the databases of Litho-Bank with geological and geophysical information.

The principal developer is thought to be Kyiv Main Branch of UkrSGRI, and co-developers – regional branches of UkrSGRI, State Enterprise “Geoinform Ukrainy”, other enterprises of the State Geological Survey of Ukraine.

The work comprises the logical follow up of the studies commenced in UkrSGRI by the order of the State Geological Survey of Ukraine for development the comprehensive background of the National Litho-Bank of Ukraine through:

• preparation of monographs “Geology of Ukraine” and “ Metallic and Non-Metallic Minerals of Ukraine” (providing necessary information on composition, column types and variability of rock complexes and related minerals). The work includes volumes I “Metallic Minerals” and II “Non-Metallic Minerals” of the “Metallic and Non-Metallic Minerals of Ukraine” monograph published in 2006, as well as volume I “Complex Geophysical 3D Structure Model of Ukrainian Shield”, volume II “Precambrian of Ukrainian Shield”, and volume III “Geology of Carpathians” of the multi-volume monograph “Geology of Ukraine” to be published in 2009;
• conduction the project No. 665 “Preparation and Publishing the Catalogue of Main Petro-Types of Rock Complexes in Ukrainian Shield (in purposes of their definition, description and mapping) to be completed in quarter IV, 2010. These works will provide comprehensive distribution outline and detailed geological-geophysical, geochemical, mineralogical-petrographical, petrological and radiological description of the rock types prescribed by the local stratigraphic subdivisions of the Correlation Scheme of Ukraine (stratified, plutono-metamorphic and plutonic rocks). These data comprise the ground for development the etalon sites of respective local stratigraphic subdivisions;
• development the Program and Technical Tasks for the works on creation the National Litho-Bank of Ukraine over the country geo-structures.

In general, the work will include the following counterparts:
• development and approval the concept and principles of Litho-Bank based on examination of i) data available (drill-holes, outcrops), and ii) new drill-holes;
• studies of legal kind providing regulations for relationships between the State Geological Survey of Ukraine and subsurface user of various ownership concerning access granting to the sources of geological-geophysical and analytical information;
• development of Litho-Bank database structure and major parameters;
• development the Litho-Bank database Users’ Guide (access conditions, procedure of use).

It is expected that the Litho-Bank will be split into the Litho-Bank of etalon cross-sections for the valid local chrono-stratigraphic (correlation) schemes, and the Litho-Bank over entire core sections obtained by subsurface users of the State (various State enterprises) and other ownership.

In view of the particular rock types involved in the rock complexes of Ukraine, the Litho-Bank formation is thought to be consisted of two separate divisions:
• litho-bank of crystalline rocks of Ukrainian Shield (rock complexes and particular deposits);
• litho-bank of sedimentary rocks from various geo-structures of Ukraine (including those of the cover of Ukrainian Shield).

To manage the Litho-Bank properly, it is foreseen equipment upgrade in the Laboratory of Precision Studies of UkrSGRI with certain technical devices (sample preparation and crushing kits) as well as spectrometer ICP-MS.

Scientific-information and publishing activities

• Geological excursion of the 33rd IGC is organized and held which included the objects in Kryvorizka, Surska, Verkhivtsiivska greenstone structures of Middle-Dniprean mega-block and Sorokynska structure in Western Pryazovian mega-block of Ukrainian Shield;
• it is under preparation and expected to be published late in 2009 the table version of Correlation Chrono-Stratigraphic Scheme of Precambrian in Ukrainian Shield containing information on the composition and internal structure of stratified and intrusive units with their age synchronizing by regions;
• The preparation is underway of polygons for the thematic geological excursions over Ukrainian Shield. Information materials (excursion guidebooks with video-clips) are being prepared over polygons.
of Dnistersko-Buzkiy mega-block entitled as “Granulite Complexes of Europe, Ukrainian Shield”. Besides the mentioned area, these will also include Slavgorodska granulite domain studied in 2006-2009 by drilling in the Middle-Dniproean mega-block of Ukrainian Shield;

- It is published “Tectonic Map of Ukraine in the scale 1:1 000 000” prepared by UkrSGRI in Ukrainian (English edition is planned). The explanatory notes describe tectonic map of Ukraine designed on the ground of tectonic-formation principle, but the strong reference to any formal instructions in effect, and is based on the method developed by the authors on the trial basis. By the method and designing principles the map does not have analogues. The most prominent cartography factor – colour – is addressed here to the separate domains while the colour shades and intensity are used to highlight minor tectonic units of these domains. Geological-formational content is expressed in variously patterned and coloured symbols. The map legend consists of three blocks. Of these, one concerns the legend for Ukrainian Shield, next one – Phanerozoic envelope of the Shield, and the third one contains the items expressing formational content of Phanerozoic rocks and other linear and planar symbols. The legends are matrix-shaped. The map reflects tectonics of major floors – deep slices, inconsistent for different regions. Structure of the floors, positioned above or below the given slice, is expressed in the system of either individual contour lines (isohyphes) or contours outlining their development areas. Geological history of development in specific regions is expressed through each tectonic unit referencing to the scale of tectonic epochs reflected in the legend. The following tectonic domains are indicated in the map: Ukrainian Shield, Volyno-Podilska Plate, Folded Donbas, Dniprovsko-Donetska Depression, South-Ukrainian Monocline, Rava-Ruska and Scythian epi-rogenic zones, mega-nappnoriums of Mountain Crimea and Carpathians, Azov and Black Sea marine areas. The authors (IAGOD members): O.B.Bobrov, Yu.M.Veklych, V.Ya.Velikanov, I.B.Vyshnyakov, M.V.Geichenko, O.B.Gintov, B.M.Dzyuba, K.E.Esipchuk, T.O.Znamenska, V.I.Kalinin, A.M.Lysak, O.E.Lukin, T.S.Nechaeva, I.K.Pashkevych, G.I.Pedanyuk, I.V.Popadyuk, B.M.Polukhtovych, A.Ya.Radzivill, V.M.Rybakov, V.Y.Samsonov, A.B.Kholodnykh, L.M.Shymkiv, O.M.Yatsozhynskiy.

- V.A.Mykhailov (Department of Geology, Kyiv Taras Shevchenko National University) had participated in the International project on evaluation the rare-earth deposits of Madagascar.

- I.S.Paranko (Kryvyj Rig Technical University) has argued opportunities of geological-formational studies for stratification and correlation of separated Precambrian units.

Selected publications of UkrIAGOD members in 2008


**Contact addresses of Coordination Council members**

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*Contributed by Prof. Alexander Bobrov, chairman*
REPORTS OF IAGOD WORKING GROUPS (WG) AND COMMISSIONS

WORKING GROUP ON TIN-TUNGSTEN DEPOSITS (WGTT)

Leadership:
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Vice-Chairman: Reimar SELTMANN
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Secretary: Thomas SEIFERT
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Projects: One of the main projects of the WGTT in recent years has been the compilation of a digital database of world tin-tungsten deposits. The principal compilers have been W.D. Sinclair, G.A. Gonevchuk, P.G. Korostelev, B.I. Semenyak, S.M. Rodionov, R. Seltmann and M. Stemprok. This database was completed in 2008 and made accessible online through the Geological Survey of Canada's Geoscience Data Repository (http://gdr.nrcan.gc.ca/minres/index_e.php). To display a plot of the deposits on a world map, one should click on the Mineral Deposits Web Map Server option on the Mineral Resources page, which will display a world map and a series of buttons at the top of the map. To display the tin-tungsten deposits, one should click the Select Layers button, select the Tin-Tungsten layer, and then click the Update Map button. To view the database itself, one should click the Launch GQuery button on the map page, click the Open button on the screen that appears, and then select World Tin-Tungsten Deposits from the drop-down menu. One can then display information on individual deposits, or deposit groups (districts). A hard copy map of the world displaying the distribution of tin-tungsten deposits is currently in preparation by the cartographic section of the GSC.

Selected publications:

Contributed by Prof. David Sinclair, Chairman

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IAGOD COMMISSION ON PLACER DEPOSITS (COPD)

Leadership:
Chairman - academician Nikolay A. Shilo†, Russian Academy of Sciences, (suddenly dead on June 8, 2008)
Vice-Chairman – Dr. Jan Krasson, Geoexplorers International Inc.
5701 East Avenue, Denver, Colorado 80222, USA
phone: 303 759 274; fax: 303 759 0553. e-mail: geoexpl@eazy.net
Secretary - Doctor of Sciences Natalia G. Patyk-Kara†, Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of Russian Academy of Sciences (IGEM RAS. 119017 Moscow, Staromonetny per., 35
(suddenly dead on October 29, 2008).
Acting secretary – Dr. Alexander V. Lalomov Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of Russian Academy of Sciences (IGEM RAS. 119017 Moscow, Staromonetny per., 35
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Dr. Jonathan D. A. Clarke CRC LEME/Geoscience Australia (GA), PO Box 378, Canberra, ACT 2601, Australia, E-mail: jon.clarke@ga.gov.au
William LeBarge Yukon Geological Survey, Whitehorse, Yukon, Canada, E-mail: Bill.Lebarge@gov.yk.ca
In 2008 COPD members had active participation in following actions:

1. Special session on geology of placer deposits MRD-12 “Fluvial palaeo-systems: evolution and mineral deposits” (08/08/08) that took place in the framework of 33-nd International Geological Congress in Oslo, Norway, August 6–14, 2008. It consisted of 8 oral and 5 poster presentations that characterize position and connection of placer deposits with other types of sedimentary ore deposits in paleo-valley systems and surrounding environment. About 50 experts in various scientific fields took place in MRD-12 session. After the Congress CORP participants had geological excursion to fjords of Norway.


5. The 5th All-Russian Lithological Congress, 14-16 October 2008, Ekaterinburg, Russia. Organizer: Geological Institute of RAS, Institute of Geology and Geochemistry, Ural Branch of RAS. More that 400 participants had about 100 oral and 200 poster presentations; 13 of them were dedicated to placer deposits. Two volumes of extended abstracts 700 pages total were published.

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

Projects:

Members of COPD took active participation in the next projects:

1. IGCP-514 “Fluvial palaeo-systems: evolution and mineral deposits”
Details of activity on www.igem.ru/igcp514
(Natalia Patyk-Kara – last leader of the project, Alejandra Duk-Rodkin co-leader, Baohong Hou co-leader, Alexander Lalomov - secretary)

2. IGCP-464 “Mineral deposits of continental shelves” – co-operation in the field of placer mineral deposits of the shelves.

3. IGCP-526 Risks Resources and Record of the Past on the Continental Shelf. Francesco L. Chiocci (Italy), Lindsay Collins (Australia), Michel Michaelovitch de Mahiques (Brazil), Rene Hetherington (Canada).

4. The Palaeovalley Groundwater Project of Australia, Geoscience Australia (CRC LEME participants: Baohong Hou, Jonathan D. A. Clarke);

5. Eromanga Palaeochannels (value addition of placers, uranium and groundwater, Baohong Hou, CRC LEME, PIRSA).

6. “Research of paleohydraulic conditions of Permian deposits of Russian platform” in co-operation with International Association of sedimentologists (French Branch) and Faculty of mineral deposits of Kazan State University. Reconstruction of paleohydraulic conditions allows determination of perspective territories for placer mineral deposits.
Selected publications

Monographs:


The most important events and projects planned for 2009-2010
4. Attend SGA2009 - The 10th Biennial Meeting of The SGA (http://sga2009.jcu.edu.au/ ) and give presentation, Townsville, North Queensland, Australia, August 17 - 20 2009. This conference is organized by The Society for Geology Applied to Mineral Deposits (SGA) and the Economic Geology Research Unit (EGRU) at James Cook University, in association with the Society of Economic Geologist(SEG).
5. Eromanga Palaeochannel mapping of South Australia using updated maps, SRTM, nigh-time thermal imagery, and other satellite data as well as geophysical and drillhole data.
6. To organize the conference on “Fluvial palaeo-systems: evolution and mineral deposits” with post-conference field excursion in Guilin (South China) under the aegis of Guilin Institute of Technology and Beijing Research Institute of Uranium Geology in 2009.

Contributed by the acting secretary – Dr. Alexander V.Lalomov
WORKING GROUP 5 “REMOTE SENSING METHODS FOR TECTONICS AND ORE PROSPECTING”

**Leadership:**  
**Chairman:** Alexey V. PERTSOV  
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V.V. Danilov, vniikam@mail.wplus.net

**Events:**  

**Projects:**  
1. Remote sensing methods’ accompaniment of exploration operations for ore mineral resources”  
The satellite data on Verkhneindigirsky and Lensky gold-bearing regions have been interpreted in the frames of this project. As a result, some criteria have been defined for prognosis of ore-bearing deposits in Verkhneindigirsky and Lensky gold-bearing region in Yakutia, north-east of Russia.

2. Remote sensing data composition for large gold deposits in Ayan –Uryakhskaya metallogenic zone (Magadan region)”
3. Remote sensing data composition for mettalogenic analysis and evaluation of gold potential for terrigenous and black shale complexes in the east of Russia.
4. Processing and interpretation of satellite data for Vitim mining district.
5. Satellite data interpretation for the State Geological Map – 200, sheet Q-41-XVIII.

**Events and projects planned for 2009-2010**

It is planned for 2009-2010 to continue the work in the frames of the following projects:

1. Remote sensing methods’ accompaniment of exploration operations for ore mineral resources
2. Remote sensing data composition for large gold deposits in Ayan – Uryakhskaya metallogenic zone (Magadan region)
3. Processing and interpretation of satellite data for Vitim mining district.

*Contributed by Alexei Pertsov, WG Leader*

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**INTERNATIONAL URANIUM GROUP (IUG)**

**Leadership:**

<table>
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<tr>
<th>Chairman</th>
<th>CNRS Research Director</th>
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<tbody>
<tr>
<td>Professor Michel</td>
<td>CREGU &amp; UMR G2R 7566</td>
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<tr>
<td>CUNEY</td>
<td>Géologie et Gestion des</td>
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<td>Ressourcés Minérales</td>
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<td>Université Henri Poincaré - NANCY I</td>
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<td></td>
<td>Vandœuvre-lès-Nancy, France</td>
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<table>
<thead>
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<tbody>
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</table>

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<table>
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<tr>
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<th>Leading Scientist of the Uranium Deposits Geology and</th>
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<tr>
<td>Dr. Vladimir LOBAEV</td>
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45
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Events:

Workshops:

<table>
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<tr>
<th>Title</th>
<th>Meeting, location, time</th>
<th>Organizers</th>
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<tr>
<td>Recent and not so recent developments in uranium deposits and implications for exploration</td>
<td>Joint Annual Meeting GAC-MAC-SEG-SGA Meeting in Quebec Canada (May 26-28, 2008)</td>
<td>Michel CUNEY (CNRS), Kurtis KYSER (Queen's University)</td>
</tr>
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Proposed Topics:

1. Disseminated deposits in granitoids (Cuney—2hrs)
   - Partial melting processes (Rossing)
   - Magmatic differentiation (Bokan Mt)
2. Volcanic-related (Cuney—1 hr)
   - Streltsovskoye
3. High-grade and Na-metasomatism (Cuney/Kyser—1 hr)
   - Regional (Ukraine), local (Guyana; Valhalla) and high-grade (Madagascar)
4. IOCG breccia type (Cuney/Kyser—1 hr)
   - Olympic Dam
5. Vein type (Cuney—2 hrs)
   - Intragranitic (Variscan belt)
   - Intrametamorphic (Erzgebirge)

Summary of critical factors in HT deposits—where to go (Cuney/Kyser—1 hr)

Deposits related to lower temperature and sedimentary processes:

6. Sediment-hosted hydrothermal deposits (Kyser/Cuney—2 hrs)
   - Proterozoic basins (Canada, Australia, Russia, Gabon)
   - Breccia pipes (Colorado Plateau)
7. Sediment-hosted low-temperature deposits (Kyser/Cuney—2 hrs)
Wyoming, Colorado, Nebraska tabular and linear deposits
Sedimentary Cu-associated deposits
Roll-front type
Calcrete-associated (Namibia, Australia)

8. Exploration strategies and techniques—what works and what doesn’t (Kyser/Cuney—1 hr).

**Symposia and Conferences:**

<table>
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<th>Title</th>
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<tbody>
<tr>
<td>Symposium «Recent and not so recent developments in uranium deposits and implications for exploration» in the Joint Annual Meeting GAC-MAC-SEG-SGA Meeting</td>
<td>Quebec, Canada (May 26-28, 2008)</td>
<td>Michel CUNEY (CNRS), Kurtis KYSER (Queen’s University)</td>
</tr>
</tbody>
</table>

**Short overview:**

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

| Uranium Session MRD19 in the 33rd International Geological Congress | Oslo, Norway (August 6-14, 2008) | Michel CUNEY (CNRS), Claude CAILLAT (AREVA NC), Olli AIKAS (GSF) |

**Short overview:**

Exploration activities for U deposits have boomed during these last three years because U prices have experienced a spectacular up. A particular attention was given here to the deposits from the Fennoscandian shield including Karelia and Kola Peninsula and from the Laurentia. The presentations were concerned to deposits or prospects, as well as whole belts and provinces, and describe their geological, mineralogical, geochemical, isotopic and tectonic characteristics, resource assessments and exploration potential.

**Projects:** NO SPECIAL ACTIVITY FOR URANIUM

**Selected publications in 2008:**

Aleshin A. Geological, structural, mineralogical and geochemical controls of the formation of the uranium-rich ores in the Streltsovsky ore field, Russia. Unpublished Ph.D. Thesis in Henry Poincare University – Nancy I (France).

Mercadier, J., Cuney, M., and Richard, A. Alterations and element transfer in the Athabasca Basin basement, Canada: Implications for the formation of unconformity-type uranium ore. Example of the Eagle Point granite porphyre;

Richard, A., Boiron, M-C., Cathelineau, M., Derome, D., Pettke, T., Banks, D., Mercadier, J. and Cuney, M. U concentrations in ore fluids: A LA-ICP-MS investigation of fluids associated with unconformity-related uranium deposits;
Rantzsch, U., Glaesser, W., Duhamel, I., Cuney, M., Stewart, R., and Westhuizen, W. Mineralogical and geochemical investigation of conglomerate-hosted uranium–gold ores of the Dominion Group, western Witwatersrand, South Africa;

Duhamel, I., Cuney, M., and Van Lichtervelde, M. First characterization of uraninite in an Archean peraluminous granitic pegmatite at Tanco (Manitoba, Canada). Inference for uraninite placer deposits;

Salze, D.I., Elie, M., Cuney, M., Harouna, M., Nguyen-Trung, C. and Richard, L. New insight on the genetic model of tabular-type uranium deposits in the Arlit Basin (Niger);

Mironov, Yu.B. Source of uranium in complex uranium deposits;

Afanasieva, E.N., Lobaev, V.M., Mironov, Yu.B., and Pimenov, A.F. Uranium potential of the Russian parts of the Baltic and Ukrainian shields: Inferences to finding new commercial uranium deposits;

Ali, M.A., and Lentz, D.R. Mineralogy and geochemistry of Nb-, Ta-, Sn-, U-, Th-, and Zr-bearing granitic rocks from Abu Rusheid shear zones, South Eastern Desert, Egypt;

Shinkle, D.A., Lentz, D.R., and McCutcheon, S. The North Pole Stream Granite: A strongly peraluminous, high-heat producing granitic complex associated with a polymetallic vein-uranium system, New Brunswick, Canada;


Mironov, Yu.B. Uranium Metallogeny of Mongolia;

Cuney M., Brouand M., Lauri L., Rämö T., Kister P., Caillat C.. Accessory mineral paragenesis and U potential of late orogenic potassic granites of southern Finland.

Sorjonen-Ward P., Cuney M., Mertanen S., Systra Y. Structural framework and hydrothermal event history in relation to uranium mineralization along the southeastern margin of the Fennoscandian Shield.

Afanasieva E., Mikhailov V., Caillat C., Cuney M. Uranium Metallogeny of the Baltic Shield.

Cuney M., Shurilov A., Kushnerenko V., Polekhovsky Yu. Uranium metallogeny of ladoga region, Russia


Mironov, Yu.B. Modern classifications of uranium deposits and its possibilities for using.


Ishevskaya E., Korshunov L. About lithogeochemical coverage study of the Urulyunguy district and its perspectives on new Mo-U deposits of the “Streltsovka” type.

Lobaev V., Mukhina O. Using of mineralogical and geochemical criteria for uranium potential perspectives of the Western Ladoga basement rocks.

Mironov Yu. Cu-U-Au-REE deposits “Olympic Dam” type and perspectives of its revealing in Russia.

Events and projects planned for 2009-2010

1) IUG officers will continue to recruit new uranium members in Russia and abroad.

2) IUG propose to create the Uranium Data Base, which will be available on the IAGOD internet site (microphotos, macrophotos, data files).

3) IUG will participate in the U2009 Global Uranium Symposium (11 – 13 May 2009, USA).

4) IUG will participate in the 13th Quadrennial IAGOD Symposium (6-10 April 2010, Adelaide, Australia)

Contributed by M. CUNEY, Chairman IUG, Yu. MIRONOV, Co-Chairman IUG

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ANNOUNCEMENTS

13th Quadrennial IAGOD Symposium 2010

‘GIANT ORE DEPOSITS DOWN-UNDER’

ADELAIDE, SOUTH AUSTRALIA

6-9 APRIL 2010

Venue: Adelaide Convention Centre, Adelaide

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. More info ...

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.
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.

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Global Tectonics and Metallogeny Journal

A vision statement by Sergei Cherkasov

In the 21st Century we start facing a growing demand for metals along with shortage in new discoveries of mineral deposits. In some ways, the latter is caused by the exhaustion of easy-to-find mineral deposits located at (or close to) the Earth surface. Consequently, exploration and prospecting methods have to focus on targets that are deep-seated and buried under sedimentary cover.

The journal ‘Global Tectonics and Metallogeny’ was initially founded in order to accumulate publications on correlation studies between deep structures and location of ore objects known at the surface. In the past, such correlation represented just pure academic interest, nevertheless, contributing to theoretical metallogeny in the way of better understanding the metallogenic regularities at the global and regional scales. Nowadays, aside from the importance of ‘academic’ studies, growing interest to the deep-seated ore deposits forces geologists and geophysicists to look for more precise evaluation of the said correlation and targeting development of new criteria that can be used for evaluation of territories for mineral resources. This new approach differs from the others in a number of ways, such as:

- the approach requests to conduct multi-disciplinary studies including geological, geophysical, and geochemical research along with metallogenic analysis and 3D-modelling of the Earth interior;
- the target (users’) group for such studies is represented by researchers and professionals in the field of ore (economic) geology and tectonics, whereas the studies are being conducted by professionals in the above listed disciplines. This implies quite specific requirements for publications on the topic – high level of, for instance, geophysical studies should be communicated in a way, and in the terms allowing economic geologists to use the results in their evaluations;
- geo-informational (GIS) technologies become an absolutely necessary part of the studies as in many cases analysis of multi-disciplinary heterogeneous and poly-semantic data can not be realized without possibility to combine the data in different sets allowing users to consider different versions for metallogenic applications.

The above indicates the need of a modern approach and revival of ‘Global Tectonics and Metallogeny’, which should become an interface between professionals and researchers in different geological, geochemical, geophysical disciplines, with economic geologists at the core. Another point to be made on the multi-disciplinary basis of the journal is that the journal will look for new ideas in the field of tectonics and metallogeny, maybe, even alternative theories, as far as they are supported by consistent information.

Through the last few years, discussions on the subject have taken place in different scientific meetings, including the 12th Quadrennial IAGOD Symposium 2006 in Moscow, 32nd and 33rd International Geological Congresses (Florence 2004 and Oslo 2008, correspondingly). These meetings attracted many researchers from Australia, Canada, China, Egypt, Russia, Ukraine, USA, Uzbekistan, and other countries, demonstrating a good authors’ base for the journal.

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