# TECTONICS AND METALLOGENY OF THE CIRCUM-NORTH PACIFIC

# **Leonid Parfenov Memorial Conference**

# **Second Circular**

June 11 to June 16, 2007

# Khabarovsk, Russian Far East, Russian Federation



Far Eastern Branch of Russian Academy of Sciences (FEB RAS)



Siberian Branch of Russian Academy of Sciences (SB RAS)



Russian Interdisciplinary Tectonic Committee (RITC)



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# Tectonics and Metallogeny of the Circum-North Pacific and Eastern Asia

Leonid Parfenov Memorial Conference

URL: <a href="http://itig.as.khb.ru/conf/parfenov-2007/parf">http://itig.as.khb.ru/conf/parfenov-2007/parf</a> en 00 conf 2007.html

#### **CONFERENCE GOAL**

The Circum-North Pacific and Northeast Asia are commonly regarded as a frontier area in the World for the discovery of metalliferous lode deposits. During the late 1800's and early 1900's, the area was subject to recurring rushes or stampedes to sites of newly discovered deposits. Subsequently in the region during the second half of 20th century, extensive geologic, mineral, and fuel exploration studies were accomplished. These activities created abundant new information on tectonic processes and metallogenic evolution for the understanding of earth evolution around the entire Pacific Ocean margin.

The Circum-North Pacific and Northeast Asia regions contain the margins of four major geologic plates the North Asian and North American continental plates, and the Pacific and Arctic Ocean plates. Plate motion, accretion, and collision are presently forming grandiose volcanic and seismic belts along the plate margins, and also operated in similar ways in the past. Metallogenic analysis of various major types of mineral deposits, with many useful minerals, reveals that the deposits formed through geologic time, from the late Archean to the Present, and are related to successive tectonic events. Nevertheless, our understanding of the tectonic history that has formed the present-day configuration of the continents, shelves, plate boundaries, deep structures, and metallogeny in these two large regions is far from being comprehensive.

A major way for increasing understanding of the tectonic and metallogenic processes has been the development of the international collaborative scientific studies. During the last two decades, a large international team from around the Circum-North Pacific and in Northeast Asia performed this type of study. For this study, Leonid M. Parfenov (1937-2002) was one of the pioneers and the Russian leader of the teams for both projects. Our Conference is devoted to the memory of this excellent geologist and very fine person who would have been 70 in 2007. For these major international collaborations, Leonid was the leading force for the tectonic and metallogenic interpretation of Northeast Russia that comprises a major part of Circum North-Pacific.

The major goal of the Memorial Conference is to bring together key geoscientists who are investigating the tectonic and metallogenic evolution of the Circum-North Pacific and Northeast Asia. The major research topics for the conference are regional geology and geodynamics, deep structure, metallogeny, isotopic geochemistry, petrogenesis, regional geochemistry, regional geophysics, paleomagnetic and paleobiogegraphical data, and Geographic Information Systems (GIS) syntheses. Your are invited to come to the conference in Khabarovsk in June 2007 to share your understanding of the Circum-North Pacific and Northeast Asia, and to discuss and define new research goals for the future!

E-mail: conference@itig.as.khb.ru (English)
conference ru@itig.as.khb.ru (Russian)



#### The Contributions of Leonid M. Parfenov to the Tectonics of Eastern Russia

By Andrei Prokopiev, Kaz Fujita, and David Stone

Leonid M. Parfenov (1937-2002) was the leading force behind the interpretation of northeast Russia in the context of plate tectonics. Originally interested in Precambrian geology, he conducted his early field work in Southern Siberia in the 1960s. He was exposed to plate tectonics at Liverpool University in 1970 and published the first mobilistic reconstructions of the Precambrian in Russia in 1973.

In 1971, Leonid joined the Institute of Tectonics and Geophysics (ITiG) of the Far East Science Center in Khabarovsk where he organized and headed the Laboratory of Deep Tectonics. He also chaired the compilation of the Tectonic Map of the Far East USSR, during which time he amassed the broad database that he would use to initiate new interpretations of the geology and tectonics of the eastern Soviet Union.

Starting in 1971, he began to systematically conduct field work and accumulate geologic data on what is now considered the accretionary collage of northeast Russia. With colleague Boris A. Natal'in, he published a series of papers on the tectonic evolution of Eastern Russia starting in 1977, with a doctoral dissertation on "Comparative Tectonics and Evolution History of Mesozoides of Northeast Asia" in 1983.

His work became known in the west with his publication in 1978 in the Journal of Physics of the Earth on "Geodynamics of the Northeastern Asia in the Mesozoic and Cenozoic Time and the Nature of Volcanic Belts" in which the volcanic belts of Eastern Russia were interpreted in the context of subduction zones.

From the mid-1980s to his death, he concentrated on understanding the evolution of the fold belts of Eastern Yakutia. Parfenov immediately became a proponent of terrane analysis as it evolved in the early 1980s and was the primary mover in developing the terrane map of Northeast Russia in the late 1990s. In 1990, he developed joint programs with the University of Alaska Fairbanks and Michigan State University, and later with Stanford University and the U.S. Geological Survey, opening Eastern Russia to western scientists.

His life's work was synthesized in a monograph entitled "Tectonics, Geodynamics, and Metallogenesis of the Territory of the Sakha Republic (Yakutia)" published in Russian in 2001 and currently being prepared in English translation.

As a result of his efforts we now have a basic understanding of the plate tectonic evolution of Northeast Russia as a region of Phanerozoic rifting, terrane development, and collision.

#### ORGANIZING COMMITTEE

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**Scientific Program Secretaries:** 

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Irina P. Voinova

Vadim E. Kirillov, PhD

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#### CONFERENCE PROGRAM

#### (amendments are possible)

June 8-11, 2007	Pre-Conference Excursions
June 11, 2007	Registration and Welcome Party
June 12-13, 2007	Technical Sessions (oral and postal presentations)
June 14, 2007	Mid-Conference Excursions
June 15-16, 2007	Technical Sessions (oral and poster presentations), General Discussions, and
	Farewell Party
June 17-22, 2007	Post-Conference Excursions

Memorial Session: Our Memories of Dr Leonid Parfenov: Recollections from friends and colleagues (on the bright side).

#### Symposium 1: Convergent Plate Margins: Evolution, Processes and Products.

#### Theme sessions:

- 1a. Accretionary tectonism and post-accretional processes
- 1b. Intra-oceanic and continental margin volcanic arcs
- 1c. Sedimentary basins and their evolution
- 1d. Ophiolites, their evolution and tectonic emplacement
- 1e. Collisional tectonism and mountain building
- 1f. Geochronology, tectonothermal evolution and uplift of mountain ranges
- 1g. Geodynamics, plate boundaries and seismotectonics

### Symposium 2 Tectonic Reconstructions and Regional Tectonics of Eastern Asia and North American

#### Cordilleras

#### Theme sessions:

2a. Regional tectonics and tectonic assembly of Eastern Asia and North American

#### Cordilleras

- 2b. Structural and kinematic analyses in tectonic reconstructions
- 2c. Paleomagnetism and tectonics
- 2d. Faunal solutions to tectonic and paleogeographic problems
- 2e. Geophysical methods and models in tracing tectonic structures at depth

#### Symposium 3 Tectonics and Metallogenesis

#### Theme sessions:

- 3a. Large scale tectonics and regional distribution of metallogenic provinces
- 3b. Geodynamic setting and tectonic control of ore deposits
- 3c. Structure of ore fields
- 3d. Geographic Information Systems for compilation and management of geological data

#### General Discussion and Business Meeting

Theme sessions will be sequential. Each session will start with plenary talks by key-note speakers (not more than 30 min), following by scientific papers (20 minutes for each, including the time for questions), and by a discussion period. Posters will be displayed around the conference hall.



#### FIELD EXCURSIONS

(The final arrangement of field excursion will depend of the number of participants)

#### **Pre-Conference Excursions**

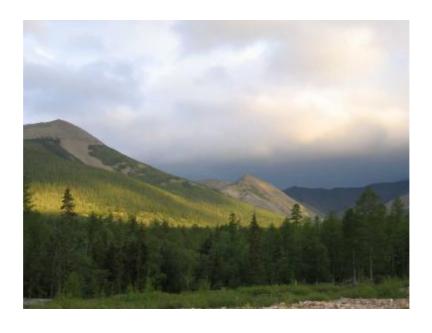
- June 8-June 11, 2007 Late Jurassic accretionary wedge, olisthostromes, and polymetallic ore deposits of Sikhote-Alin Area, Primorie (bus, 20-25 participants)
- June 8/9–June 11, 2007 Cretaceous dinosaur graveyard, outskirt of Blagoveshensk City, Amur Area (train and/or plane, 20-25 participants)
- June 8/9–June 11, 2007 Cretaceous Okhotsk-Chukotka volcanic belt of the Magadan Area (plane, 15-20 participants)

#### **Mid-Conference Excursion**

June 14, 2007 - Jurassic and Early Cretaceous accretionary complexes around Khabarovsk (fast ferry and bus, 30-35 participants)

#### **Post-Conference Excursions**

- June 17-June 21/22, 2007 Early and Mid Cretaceous accretionary complexes and Quaternary volcanics around Khabarovsk (fast ferry and bus, 30-35 participants).
- June 17-June 22, 2007 Recent volcanism of Kamchatka (plane and helicopter, 15-20 participants)
- June 17-June 22, 2007 Gold deposits of Southern Yakutia (plane and bus, 15-20 participants)
- June 17-June 22, 2007 Platinum deposits of Kondyor, Northern Khabarovsk Territory (plane or helicopter, 10-12 participants) (The arrangement of this excursion is still under discussion)



#### **ABSTRACT AND PUBLICATIONS**

Publications for the Conference will include:

- Conference Program and Abstract Book
- Excursion Guidebook with description of the geological objects proposed for pre-, mid-, and postconference field tours.
- Journal of Asian Earth Sciences, special issue (to be mulled over and arranged with a Chief Editor)
- Journal of Pacific Geology (Tihookeanskaya Geologiya), special issue in Russian and English

#### **Abstract Submission and Layout**

Please forward your material by e-mail to the following address: <a href="mailto:conference@itig.as.khb.ru">conference@itig.as.khb.ru</a> conference ru@itig.as.khb.ru

The whole material (including text, graphics, and references) should fit within no more than three pages on A4-size paper, with 20 mm margins.

The **Text** must be presented in the doc. format, Microsoft Word, Times New Roman, 12, as single-spaced, left-justified, without hyphenation, with a 10 mm break line.

- 1. Title (Times New Roman, 12, Bold, centered).
- 2. One empty line.
- 3. Last name(s), first and middle names (initials) of the author(s) (Times New Roman, 12, Bold, centered), with superscript enumeration of the authors.
  - 4. One empty line.
  - 5. Affiliation, city, country, e-mail (Times New Roman, 10, centered)
  - 6. One empty line.
  - 7. Text with no pagination.

**Graphics** is drawn either in CorelDraw or PhotoShop, and is presented in the cdr. or tif. format (resolution 300). Inscriptions in the figures are in Arial, 8-9. The graphics must be discernible.

**Tables** are drawn in the doc. format.

The figures and the tables must not exceed 23 x17 cm size. Each table and figure must be presented as a separate file.

**Figure Captions** should go as a separate general file. The figure and table titles are in Times New Roman, 12; and conventional signs, in Times New Roman, 11, left-justified.

**References** are arranged alphabetically in the following order: authors' names and initials, full title of the book or paper, Publishing House, year of publication, volume, number, and page numbers. The title (Times New Roman, 12, Bold) is centered; the list of references (Times New Roman, 11) is left-justified. The references in the text must appear square-bracketed in the digital form

The abstract files holding the text, figure captions, tables, figures, and references must appear under the first author's last name represented as: author\_txt, author\_fig, author\_tabl, author\_ref (e.x. petrov\_txt, etc.). If two materials are presented by one author, the first set is designated as petrov; and the second, as petrov (e.x. petrov\_txt, etc.). The extension of the files must correspond to their type.

The abstracts of papers dealing with the problems of mineral and raw material resources are to be accompanied with expert examination reports.

#### **Example of Abstract Layout**

#### **Tectonics and deep structure of East Asia**

<sup>1</sup>Petrov P.P., <sup>2</sup>Vasiliev A.V.

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<sup>2</sup>Geological Institute, Russian Academy of Sciences, Moscow, Russia, <u>vas@yandex.ru</u>

....Text of Abstract...

#### References

- 1. Fillipova G.G. Stratigraphy and age of continental deposits in Central and East Chukotka // Pacific Geology. 2001. N1. P.85-99.
  - 2. Yakovlev N.P. ...



#### REGISTRATION

Those who wish to participate in the Leonid Parfenov Memorial Conference «Tectonics and Metallogeny of the Circum-North Pacific» convened in the period of June 11 to June 16, 2007 Khabarovsk, Russian Far East, Russian Federation are kindly requested to fill this form and to e-mail it back to either of the following contacts.

Dr. Sergey V. **Zyabrev** Dr. Vadim E. **Kirillov** 

e-mail: English: <a href="mailto:conference@itiq.as.khb.ru">conference@itiq.as.khb.ru</a>

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e-mail: Russian conference ru@itig.as.khb.ru

	I OINIO	
Name:		
Degree:		
Institution:		
Address:		
Accompanying persons:		
Phone:	Fax:	
E-mail:		
Title of papers:		
Oral/ Poster		
Participation in field trips		
Hotel reservation (yes/no)		
Date:		

FORMS

#### **REGISTRATION FEES**

Registration fees of \$US 150 for delegates, \$US 100 for accompanying persons, and \$US 50 for students include the right to attend scientific events associated with the Conference, to receive the Conference publications, and to take part in some of social events organized within the conference.

Bank details:

Beneficiary's Bank: Bank For Foreign Trade (Vneshtorgbank) Khabarovsk Branch SWIFT CODE: VTBRRUM2KHA. 7, Moskovskaya str, Khabarovsk, Russia

Beneficiary's a/c # 40503840502001006572

Beneficiary's name: Yu.A.Kosygin Institute of Tectonics and Geophysics, Far East Branch of Russian Academy of Sciences (ITiG FEB RAS)

Purpose: Registration fees to participate in the Conference «Tectonics and Metallogeny of the Circum-North Pacific»

#### **GENERAL INFORMATION**

#### Conference Languages.

English and Russian. We encourage the Russian fraternity to present talks in English. Those participants who are not comfortable with this are kindly advised to arrange for interpretation through their bilingual colleagues (own preliminary agreement required) or consider participation in a poster session. All posters are to be prepared in English.

#### Climate.

The conference period is characterized by moderate to high (20-30 C = 68-86 F) temperatures with moderate precipitation. Current conditions are available through these links <a href="http://weather.cnn.com/weather/forecast.jsp?locCode=KHAY">http://weather.cnn.com/weather/forecast.jsp?locCode=KHAY</a>
<a href="http://weather.msn.com/local.aspx?wealocations=wc:RSXX0044">http://weather.msn.com/local.aspx?wealocations=wc:RSXX0044</a>

#### Travel

Khabarovsk International Airport (code KHV) <a href="http://www.sovereign-publications.com/dalavia.htm">http://www.sovereign-publications.com/dalavia.htm</a>. The airport is the base of Dalavia Airlines and is located 12 km from the downtown Khabarovsk. The airport provides connections to Moscow, St. Petersburg, Novosibirsk, Yakutsk, Magadan, Petropavlovsk-Kamchatka, Seoul, Niigata, Beijing and other destinations via Russian domestic and international airlines. The airport is linked to the city with public transport (very cheap) and taxies (reasonably cheap).

Khabarovsk City is located at the Amur River Bank. It was established as a Russian Cossack's stronghold in 1858. Now it is a cultural and administrative centre of the Far East Russia, and a place of visiting attractions.

Guides to the City and Region: <a href="http://www.adm.khv.ru/invest2.nsf/pages/khvwelcome\_en.htm">http://www.adm.khv.ru/invest2.nsf/pages/khvwelcome\_en.htm</a>

http://intour.khv.ru/

http://www.geocities.com/tokyo/2673/photos.htm

#### Accommodations.

Hotels are available at various rates and degree of comfort within a 10-20 min walk distance from the conference site. Accommodations should be reserved through the Organizing Committee. Those who like to reserve accommodations independently can use the following Web sites:

http://deals.hotels.com/hotel.asp?city=khabarovskandcountry=russian%20federation

http://www.hotel.com.au/cities/Khabarovsk-Russia-hotel.asp

http://travela.priceline.com/hotel/city-Khabarovsk\_Khabarovskiy\_Russia-5000289660.html

Or the popular global travel sites can be used:

http://www.expedia.com/daily/hotels/default.asp?rfrr=-1067

http://www.tripadvisor.com/

http://travel.travelocity.com/hotel/HotelCobrand.do

#### Food and Drink, and Social Events.

Lunch and coffee breaks will be organized at the venue and lunch tickets will be available from the Organizing Committee. Numerous but sometimes busy cafeterias and restaurants will be available locally. In addition to the Ice Breaker, a conference dinner, several receptions, and a farewell party will be scheduled. Most social events will be sponsored. Breakfasts and dinners (other than social events) will be arranged by each attendee.

#### Accompanying persons

The accompanying person program will include visits to the Art Galleries, Historical Museum, gift shops, Drama Theatre, Circus, and concert halls. English-, Japanese-, Korean-, and Chinese-speaking interpreters will be available at request.

#### Insurance liability

Participants should note that emergency medical costs are not covered in the registration fees. Participants are thus advised to arrange travel insurance with an insurance company in their own countries. The Organizing Committee and our sponsors can not accept any responsibility for debts incurred by anyone as a result of illness or accident. Also we cannot accept responsibility if the conference has to be canceled because of natural disaster or world events beyond our control.

Participants of the field excursions should to have antiencephalitic vaccination