Ministry of Science and Higher Education of the Russian Federation

Research Geotechnological Center of Far Eastern Branch of the Russian Academy of Sciences

2nd International Geothermal Conference

GEOHEAT 2018



September 04–07, 2018 Petropavlovsk-Kamchatsky

Second Announcement (May 21, 2018)

Organizing Committee:

Chair Roman I. Pashkevich Research Geotechnological Center of Far Eastern Branch of Russian Academy of Sciences, Russian Federation

Members

Alibek B. Alkhasov Institute for Geothermal Problems of the Daghestan Scientific Centre of the Russian Academy of Sciences, Russian Federation

Alper Baba Geothermal Energy Research and Application Center, Izmir Institute of Technology, Republic of Turkey

Graeme Beardsmore Hot Dry Rocks, Australian Geothermal Association, Australia

Dornadula Chandrasekharam Indian Institute of Technology Hyderabad, India

Surya Darma Indonesia Renewable Energy Society, Republic of Indonesia

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Vladimir P. Kobolev S.I. Subbotin Institute of Geophysics of the National Academy of Sciences of Ukraine, Ukraine

Thomas Kohl Institute of Applied Geosciences, Karlsruhe Institute of Technology, Federal Republic of Germany

Margaret Krieger International Geothermal Association, Federal Republic of Germany John W. Lund Geo-Heat Center, Oregon Institute of Technology, United States of America

Peter Meier Geo-Energie Suisse, Switzerland

George Melikadze Research Center of Hydrogeophysics and Geothermy, Institute of Geophysics, Ivane Javakhishvili Tbilisi State University, Georgia

Abdulvahab Mukhtarov Department of Geothermics, Geology and Geophysics Institute of Azerbaijan National Academy of Sciences, Republic of Azerbaijan

Mike O'Sullivan Department of Engineering Science, University of Auckland, New Zealand Zhonghe Pang Institute of Geology and Geophysics, Chinese Academy of Sciences, Peoples Republic of China

Yuri A. Popov Skolkovo Institute of Science and Technology, Russian Federation Árni Ragnarsson Iceland GeoSurvey, Iceland

Jesus Rueda Asociación Colombiana De Estudiantes De Geociencias, Republic of Colombia Sheng-Rong Song Department of Geosciences, National Taiwan University, Taiwan, China Saulius Sliaupa Laboratory of Bedrock Geology, Institute of Geology and Geography, Republic of Lithuania

Yoonho Song Korea Institute of Geoscience and Mineral Resources, Republic of Korea Mario-Cesar Suarez-Arriaga International Geothermal Association – Mexican Geothermal Association, United Mexican States

Yuri P. Trukhin Research Geotechnological Center of Far Eastern Branch of Russian Academy of Sciences, Russian Federation

Ernest Tshibalo University Teaching and Learning Development, University of South Africa, Republic of South Africa

Grigori P. Vasiliev Insolar Invest, Russian Federation

Albert Waibel Columbia Geoscience, United States of America

Vladimir I. Zui Belarusian State University, Republic of Belarus

GEOHEAT is an annual geothermal international conference. The first conference GEO-HEAT2017 was held in 2017. Twenty-seven papers of the scientists and professionals from 5 countries worldwide (Russia, Germany, New Zealand, Mexico and Taiwan) were presented in a plenary session. The attendants presented twelve scientific and educational institutions, three production companies and one business administration. There were more than 100 registered participants. Four scientific trips were carried out as a part of the conference. The representative of International Geothermal Association participated in the conference.

Today the preliminary program has been made. 41 plenary and 12 poster presentations will be presented at the Second International Geothermal Conference GEOHEAT 2018. A total number of participants is expected to be not less than 100 persons.

The preliminary conference program includes reports from 18 countries (Azerbaijan, Bangladesh, Bulgaria, China, Colombia, Costa Rica, Democratic Republic of the Congo, France, Germany, Indonesia, Kyrgyzstan, Mexico, Russia, Switzerland, Tajikistan, Uganda, Ukraine, USA).

The event will contribute to the solution of a number of fundamental problems: the development of theoretical issues of geothermics and heat flow of the Earth; establishment of new features of thermophysical processes in the geothermal water field development with supercritical thermodynamic parameters; the establishment of geothermal parameters of the Earth crust on basis of advanced experimental technologies (continuous thermal core logging technology, instruments for thermal property measurements at formation conditions, accounting of rocks heterogeneity, as well as micro- and macroanisotropy), and on this basis the geothermal resources revaluation, including geothermal resources maps.

The planned event will be of great importance for the development of the above directions. Since not only representatives of academic institutions, universities and research laboratories, but also representatives of the geothermal industry, private geothermal research companies and resource developers who will be present at the conference among the participants and speakers, the scientific results will be able to find practical application.

Goals:

The goals of the conference are to distribute scientific and industrial information concerning current state of geothermal science, technology and industry; to share knowledge and results in theory, methodology, technology and applications of geothermal science; to bring together scientists, researchers, engineers, students and managers interested in geothermal science; to promote geothermal innovations; provide a forum to exchange ideas on the exploration, development and use of geothermal resources; to encourage international communication and collaboration.

Topics for talks, posters, and panel discussions:

- Theoretical Issues of Geothermics and Heat Flow
- Geothermal Resources in Extensional and Compressional Settings
- Geosciences
- Case Studies
- Exploration
- Field Management
- Electricity Generation
- Drilling and Well Bore Flows
- Reservoir Engineering and Numerical Simulation
- EGS/HDR
- Geology of Geothermal Fields
- Geochemistry of Geothermal Fields
- Thermal Properties of Geothermal Fields Rocks
- Low Enthalpy Systems and Direct Use
- Geothermal Heat Pumps
- Geothermal Hydrogen
- Magma Chambers
- Economics

Conference Location:

The conference venue is in the Research Geotechnological Center of Far Eastern Branch of Russian Academy of Sciences, Petropavlovsk-Kamchatsky, Russia.

Kamchatka is a very unique region of Russia. It is a part of Pacific Ring of Fire (circum-Pacific orogenic belt) and it is washed by cold Okhotsk Sea, Bering Sea and the Pacific Ocean. Petropavlovsk-Kamchatsky is the capital of Kamchatka peninsula. It is a sea-port and one of the most spectacular towns in the whole world. It is a land of Hot Springs and geysers, volcanoes and valleys with lush vegetation.

Kamchatka is a zone of modern volcanism. It has about 30 active volcanoes, about 300 extinct and destroyed volcanoes, more than 2500 cones, a great number of cold mineral and thermal hot springs and geysers. The Mutnovsko-Gorely Group is located about 80 km south of Petropavlovsk-Kamchatsky on the south side of Avacha Bay. Mutnovsky volcano has the one of the

world's largest fumarole fields; and it is one of the most active volcanoes in Kamchatka. Mutnovskaya Geothermal Power Station was built at the foot of this volcano.

Flora and fauna are very rich and unique. There are some giant species (up to 3-3.5 m) which grow on a rich volcanic soil. The fauna includes 170 species of birds and 60 species of mammals. Beside numerous rivers, waterfalls and lakes Kamchatka has enormous reserves of fresh water. Kamchatka's rivers are a spawning place for one of the world largest populations of salmon.

September in Kamchatka is a symphony of colors. It is a beneficial and exciting time to travel around the peninsula. In September there are no permanent fog, rain and slush. The weather is splendid, the temperature is comfortable.

The **Petropavlovsk Kamchatsky** airport is about 20 km from city border in <u>Yelizovo</u>. Most visitors arrive here from <u>Moscow</u>, but there are flights via Vladivostok and <u>Khabarovsk</u>.

There is a preliminary conference program below.

The participation of new persons is welcome. In this case we will wait for all documents (registration letter, brief bio, abstract, full paper, presentation, copy of passport and information for visa arrangement) till June 15, 2018. It takes much time (about a month) to process an invitation letter and visa and for translation the presentation into Russian.

Important Dates and Deadlines:

Final and True Deadline for new participants (for oral presentations and posters):

All Documents Submission (registration letter, brief bio, abstract (the abstract text is limited to 200 words), full paper, presentation, copy of passport and information for visa arrangement):

June 15, 2018

Notification of Full Papers Acceptance:

July 1, 2018

Final Agenda (with information about plenary session or/and sections):

July 15, 2018

Third Announcement:

August 1, 2018

Please, send your registration letter to e-mail: <u>geoheat2018@yandex.ru</u>
In your **registration letter** would you be so kind to give the information as follows:

1	First name, Family name	
2	Country and city of residence	
3	Affiliation	
4	Occupation	

5	Degree	
	Contact telephone number	
6	Mobile number	
	Fax	
7	E-mail	
8	Postal address	
9	Brief bio	
10	Paper title	
11	Abstract, 1-2 pages	
12	Presentation type:	
	Oral	
	Poster	
	Panel discussion	
13	Major theme	
14	Willingness for scientific field trips	
	1	

Registration Fee is free of charge

Contact

Mailing Address:

Research Geotechnological Center, Far Eastern Branch of Russian Academy of Sciences, Severo-Vostochnoye shosse, 30, Petropavlovsk-Kamchatsky, 683002, Russian Federation.

Phone: +7(415-2) 495-435

Fax: +7(415-2) 495-435

Director

Roman I. Pashkevich

E-mail: geoheat2018@yandex.ru

Accommodation

Accommodation and hotel booking is made by the Conference participants personally. Hotels information is presented on the https://www.booking.com/city/ru/petropavlovsk-

kamchatskiy.ru.html?aid=356993;label=gog235jc-hotel-ru-ru-adacha-unspec-ru-com-L%3Aru-O%3AwindowsSxp-B%3Afirefox-N%3AXX-S%3Abo-U%3Ac-H%3As;sid=f6e01b94faff1435fbd6c1bc50e48624;breadcrumb=hotel&

Official languages

The official language of this conference is English. Speaker can do oral presentation either in Russian or English. Those speakers, who can report both in English and Russian but prefer to speak one of these languages, should deliver a presentation in the format of power point both in English and Russian.

Speakers who will do oral presentation in English and haven't the possibility to do it in Russian should deliver a presentation in the format of power point in English.

Proceedings and instructions for abstract submissions

The abstract text is limited to 200 words.

Papers should be limited to a maximum length of 5000 words.

The proceedings of full papers are supposed to be published in IOP Conference Series: Earth and Environmental Science (EES). It is indexed in Scopus, as well as EI Compendex and Inspec. Authors need to follow the journal guidelines when formatting their papers, these are available from the website at http://conferenceseries.iop.org/content/authors.

Full papers presented at the Conference will be published in IOP Conference Series by the beginning of the conference after the peer review.

Presentations

There will be presentation of the papers in two languages (English and Russian) simultaneously. English version will be on one screen, Russian on another. Or there will be half of each slide in Russian and half in English simultaneously in the same window, using Power Point.

There are not special rules for presentation layout.

The time for paper presentation including the answers for the questions is not more than 20 minutes.

Visa

The documents for visa application will be prepared. Participants should send passport photocopy to e-mail: geoheat2018@yandex.ru as soon as possible. Then invitation-letter for visa arrangement to the Russian Federation will be sent.

The following information is necessary to make visa arrangement:

- 1) the copy of your passport;
- 2) which cities will be better for you for further visa processing:
- 3) the state and the city of your birth;
- 4) the state and the region of your permanent residence;
- 5) full name of your place of work;
- 6) full address of your place of work;
- 7) your position in your organization;
- 8) through what Russian cities will you get to Petropavlovsk-Kamchatsky;
- 9) the completed registration form with the title of your report.

This information should be delivered by 1st July, 2018.

Scientific field trips

You can visit Mutnovsky hot springs, geothermal field and GeoPP located 120 km South-West from Petropavlovsk-Kamchatsky city. Mutnovsky GeoPP is the largest one in the Russian Federation. We can offer you a helicopter trip to the Geyser Valley or a flight to the Avacha volcano, a trip to the Malkinskoe and Ketkinskoe fields of thermal water and ethnic settlement Kaynyran.

The planned scientific field trip and their approximate cost:

120 USD	7700 RUS rubles
up to 695 USD	up to 44500 RUS
	rubles
50 USD	3200 RUS rubles
50 USD	3200 RUS rubles
100 USD	7400 RUS rubles
	up to 695 USD 50 USD 50 USD

Helicopter trip always depends on the weather. If the weather is good, such trip takes place. If the weather is non-flying, the trip is arranged on another day.

If somebody wants to visit other excursions, you can arrive earlier. Inform the organizing committee about it, please.

The cost of the scientific field trip is depended on numbers of participants and will be specified at the time of their carrying out.

The persons interested to visit the scientific field trips have to provide decision no later August 15, 2018.

Oral and Poster Presentations

Material may be presented in one of the following presentation types:

- Oral
- Poster

Terms, conditions and rates

All terms, conditions, dates and rates are subject to change (without any other notifications).

The conference will be held during 4 days (September 04-07, 2018). Two days will be devoted to oral presentations and posters. During other two days participants can visit scientific field trips. Trips are paid on site. The information about additional scientific field trips will be presented in the Third Announcement. It will be sent to the participants.

Preliminary GEOHEAT 2018 Conference Program

At the time being we don't break down the preliminarily program according to the days and time and present the participants in an alphabetic order. The final program will be ready by July 15, 2018, because we expect other papers and participants.

REGISTRATION

ORAL PRESENTATIONS/ PANEL SESSION

1. Alfaro-Valero Claudia María, Rueda-Gutiérrez Jesús Bernardo The Colombian Geological Survey (SGC), Bogotá, Colombia

Early Exploration of San Diego Geothermal Area, Northwest Colombia

2. Ralph Kacu Bacwa Nyakabwa-Atwoki

Sustenersol Uganda Ltd, Kampala, Uganda

The New Frontier for Geothermal Energy Investment and Development.

3. **T.P. Belova**

Research Geotechnological Center FEB RAS, Petropavlovsk-Kamchatsky, Russia Boron and Lithium Recovery from Pauzhetsky and Mutnovsky Geothermal Heat Carriers by Sorbents on Basis of Modified Silicates and Aluminosilicates of the Deposits of the Kamchatka Krai.

4. Elsa Maria De La Calleja Mora
Instituto De Investigaciones En Materiales, Universidad Nacional Autonoma De Mexico, Mexico

Physical Properties in Synthetic Porous Media under Reservoir Conditions.

5. **I.I.** Cherney

Joint Stock Company "Geotherm", Petropavlovsk-Kamchatsky, Russia New Data on Resources of Mutnovskaya Geothermal Field.

6. **I.I. Cherney**

Joint Stock Company "Geotherm", Petropavlovsk-Kamchatsky, Russia Basis of Well Productivity Increase at Kamchatka Steam Water Geothermal Field.

7. Surya Darma

Indonesia Renewable Energy Society (METI-IRES), Jakarta, Indonesia

Indonesia Geothermal Energy Human Resources Development Strategy.

8. **I.F. Delemen**

Institute of Volcanology and Seismology FEB RAS, Petropavlovsk-Kamchatsky, Russia On the Interpretation of Gas-Geochemical Mapping of the Hydrothermal Reservoirs Caprock.

9. R.P. Dorofeeva

Geothermal Regime and Deep Temperatures

Institute of the Earth's Crust, Siberian Branch of Russian Academy of Sciences, Irkutsk, Russia

of the Siberian Platform with Comparison of the Baikal Rift Zone.

10. Zhaohong Fang

Shandong Jianzhu University, Jinan, China

The Ground-Coupled Heat Pump Technology in China.

11. **Alain Gadalia**¹, Bouchot V. ², Calcagno P. ², Caritg S. ³, Courrioux G. ², Darnet M. ², Jacob T. ², Labeau Y. ³, Taïlamé A.L. ⁴, Terrier M. ², Thinon I. ², Vittecoq B. ⁴

¹BRGM, French Geological Survey, Orléans, France

Multimodal Geothermal Exploration in the Lesser Antilles Arc at the Lamentin Lowland (Martinique).

12. V.A. Gorbach

Research Geotechnological Center FEB RAS, Petropavlovsk-Kamchatsky, Russia Purification of Exhausted Geothermal Heat Carrier from Arsenic Compounds.

13. L.C.A. Gutiérrez-Negrín

Geocónsul, SA de CV, CeMIE-Geo & GEMex Project, Morelia, Mexico

Current Status of Geothermal-Electric Production in Mexico.

14. **Vladimir Hristov¹,** Nikolay Stoyanov², Sava Kolev¹, Aleksey Benderev¹ Geological Institute – Bulgarian Academy of Sciences, Sofia, Bulgaria

Utilization of Low Enthalpy Geothermal Energy in Bulgaria.

15. Adam Jones

LAIKA LLC, Hillsboro, USA

Geothermal Abundance in the Cascade Range (Washington/ Oregon/ N. California).

16. V.A. Kudryashov

Regional Centre of Energy Development and Energy Conservation of the Kamchatsky Krai, Petropavlovsk-Kamchatsky, Russia Perspective Scheme of Heat Supply in Elizovo City on Basis of Thermal Resources of Verkhne-Paratunsky Geothermal Heat Supply.

17. Wissing Lothar

Project Management Juelich PTJ-ESE 4, Division: Energy System - Renewable Energies / Power Plant Technology, Geothermal Energy, Hydropower, Science Communication, Juelich, Germany IEA Geothermal – Participant of the Technology Collaboration Programmes of the International Energy Agency.

18. Levesque Makuku Mbo

Kinshasa University, Petroleum, Gas and Renewable Energy Faculty, Kinshasa Township, DRC Inventory of Geothermal Sources in the DRC and Their Development Plan for the Electrification of Locals Areas. Case of the Eastern Part of the DRC.

19. D.V. Mamaev, R.I. Pashkevich

Research Geotechnological Center of FEB RAS, Petropavlovsk-Kamchatsky, Russia Thermohydrodynamic Simulation of Koshelevo Geothermal System in Kamchatka.

20. **Beatriz Martínez Montesinos**, Boris J.P. Kaus and Anton A. Popov Johannes, Gutenberg, University, of

Johannes Gutenberg University of Mainz, Germany

Simulating Fluid Injection in Complex Rheologies.

21. **Mohammed Masum, Md. Ali Akbar** Geological Survey of Bangladesh, Dhaka, Bangladesh

The Pacific Ring of Fire is Working as a Home Country of Geothermal Resources in the World.

22. Camilo Matíz

The Colombian Geological Survey (SGC), Bogotá, Colombia

Application of Remote Sensing Techniques in the Estimation of Surface Temperature Models as Support for Geothermal Exploration in Colombia.

23. P. M. Meier, F. Guinot

Geo-Energie Suisse AG, Zürich, Switzerland

Adapting Unconventional Oil and Gas Completiontechnology: a Key Factor in Reducing Risks Associated to EGS Projects.

24. Romain J.A. Metge

Services Industriels Lausanne, Lausanne, Switzerland Geothermal Exploration in a Foreland Basin: Study Case of a Swiss City.

25. Abdulvahab Mukhtarov

Geology and Geophysics Institute of Azerbaijan National Academy of Sciences, Baku, Azerbaijan Magmatic and Mud Volcanoes as Ways of Internal Heat of the Earth to Surface.

26. S.V. Muradov

Research Geotechnological Center FEB RAS, Petropavlovsk-Kamchatsky, Russia Ecological Influence of Thermomineral Waters of the Paratunsky Hydrothermal Deposit of the Kamchatka Krai on the Bottom Sediments of Silty Sulphide Therapeutic Mud.

27. A.G. Nurmukhamedov, M.D. Sidorov

Research Geotechnological Center FEB RAS, Petropavlovsk-Kamchatsky, Russia Geothermal Resources in the South of Kamchatka According to the Data of Deep Geophysical Studies.

28. Nova Dany Setyawan¹, **Nugroho Agung Pambudi**^{1*}, Frandhoni Utomo¹, Lip Huat Saw², Mert Gürtürk³,
SaeidMohammadzadeh Bina
¹Sebelas Maret University, Surakarta,
Indonesia

Performance Improvement of Drysteam Geothermal Power Plant by Employing Bottoming Binary System

29. R.I. Pashkevich, A.V. Shadrin

Research Geotechnological Center of FEB RAS, Joint Stock Company "Geotherm", Petropavlovsk-Kamchatsky, Russia

Breakdown of Discontinuity in Geothermal Systems under Supercritical Thermodinamical Conditions

30. **Yu.A. Popov,** E. Popov, E. Chekhonin, M. Spasennykh and A. Goncharov Skolkovo Institute of Science and Technology, Moscow, Russia

Evolution in Information on Crustal Geothermal Parameters due to Application of Advanced Experimental Basis.

31. **V.V. Potapov,** D.S. Gorev, S.V. Zubaha, Ye.V.Shunina
Research Geotechnological Center
FEB RAS, PetropavlovskKamchatsky, Russia

Colloid Silica in Hydrothermal Heatcarrier: Characteristics, Technology of Extraction, Industrial Applications.

32. V.A. Semchev

Regional Centre of Energy Development and Energy Conservation of the Kamchatsky Krai, Petropavlovsk-Kamchatsky, Russia Geothermal Energy in the Terms to Transfer the Power Economy of the Kamchatka Krai into Renewable Energy Sources.

33. **M.D. Sidorov, V.V. Taskin**Research Geotechnological Center
FEB RAS, PetropavlovskKamchatsky, Russia

Studying the Permeability of the Earth Upper Crust by Surface Photography in the Region of Nalychevo Deposit of Thermomineral Water.

34. **Leonardo Solís, Sulamith Kastl**ICE Instituto Costarricense de Electricidad, Costa Rica.

Verification of Applied Geophysical Procedures to Standardize Protocols for Geothermal Exploration in Central America.

35. Mario-César Suárez-Arriaga
International Geothermal Association
& Mexican Geothermal Association,
Morelia, México

Thermodynamics of Deep Supercritical Geothermal Systems.

36. **Vu Van Tich,** T T Thang², N V Vuong¹, D X Thanh¹, H V Hiep¹, P H Thanh², P X Anh³, V V Duc¹, N H Giang⁴, N T Oanh⁵

¹VNU University of Science, Faculty of Geology, Hanoi, Vietnam.

Active Tectonic Controls on Hydrothermal Flow in the Northern Part of Vietnam: Implications for the Geothermal Exploration at Uva Geothermal Reservoir in Dien Bien Phu Basin.

37. **G.P. Vasiliev**

Joint Stock Company "Insolar-Invest", Moscow, Russia

Efficiency of Geothermal Systems Using in Geothermal Heat Pump Systems in the Geoclimatic Conditions of Russia.

38. Mahendra P. Verma

Instituto Nacional de Electricidad y

GeoSteam.Net: Steam Transport Simulation in a Three-Reservoirs Pipeline Network.

Energías Limpias, Cuernavaca, Mexico

39. **L. A. Vorozheykina,** N.P Asaulova, N.V. Obora

Joint Stock Company "Heat of the Earth, Thermalny", Russia

Hydrotherms and Volcanoes of Kamchatka.

40. Albert Waibel

Columbia Geoscience, Hillsboro, USA

Fluid Sources and Flow Paths of Non-Magmatic Convective Geothermal Resources in Extensional And Compressional Terranes.

41. **Keyan Zheng**

Geothermal Council of China Energy Society, Beijing, China

Industrialized Geothermal Development in China: Past and Future.

POSTERS

 ErmekBaybagyshov, Nadira Degembaeva

Naryn State University after named S.Naamatov, Naryn, Kyrgyzstan

Assessment of the Use of Renewable Energy in the Naryn Region of Kyrgyzstan (in Russian).

2. **Raymond A. Duraiswami**^{1,2}, **Aristle Monterio**¹, Shrishail Pujari¹, Ahsan
Absar³, Upananda Low^{2,3}, Nitin R.
Karmalkar^{1,2}
Department of Geology, Savitribai

Petrophysical Variations Within the Basaltic Lava Flows from Tural-Rajawadi Hot Springs, Western India and Their Bearing on the Viability of Low-Enthalpy Geothermal Systems.

3. **Z.H. Gaibullaeva,** G.T. Nasymov, B.I. Asrorov

Phule Pune University, Pune, India

Tajik Technical University named after Academician M.S.Osimi
Branch of the National Research
Technological University "MISIS" in
Dushanbe, Dushanbe, Tajikistan

Study of Geothermal Layers of the Fon-Yagnab Deposit of the Republic of Tajikistan.

4. V.V. Gordienko

Institute of Geophysics, Ukrainian Academy of Sciences, Kiev, Ukraine

- 1.Geothermal Resources of Ukraine.
- 2.Relation of Thermal, Velocity and Gravity Models of the Kamchatka Mantle.
- 3. The Energy Balance of the Earth's Tectonosphere.
- 4. Parameters of Magma Chambers.

 R.I. Kutas, V. P. Kobolev
 S.I. Subbotin Institute of Geophysics, National Academy of Science of Ukraine, Kiev, Ukraine The Thermal Regime of the Southern Margin East-European Craton.

6. ¹S.P. Levashov, ¹N.A. Yakymchuk, ²I.N. Korchagin, ² R.I. Kutas, ³ D. Majcin, ¹ D.N. Bozhezha ²Institute of Geophysics, National Academy of Science of Ukraine, Kiev, Ukraine

Mobile and Direct-Prospecting Methods: the Possibility of Their Application for Areas of Geothermal Water Accumulation Searching and Mapping.

7. **A.A. Shevchenko, O.V. Shiganova**Novosibirsk State University of Architecture and Civil Engineering (Sibstrin), Novosibirsk, Russia

Renewable Ecologically Friendly Source of Thermal Energy in Western Siberia (Russia).

8. **V.B. Svalova**

IEG RAS, Moscow, Russia

Geothermal Resources Complex Utilization in Russia.

D.A. Alkhasova¹, V.N. Sokotushchen-ko², V.M. Torchinsky², V.M. Zai-chenko²
 Joint Institute for High Temperatures of RAS, Moscow, Russia

Peculiarities of Excitation of Self-Oscillations in Geological Systems.

10. Tshibalo Azwindini Ernest

University of South Africa, Pretoria, South Africa

The Development of Geothermal Resources.

11. Ouyang Xinnan

F&S Cleantech Limited, Beijing, China

Successful Application of ATES/Groundwater Source Heat Pump in China.

12. Chen Zihui

China Institute of Geo-Environment Monitoring, Beijing, China Geothermal Fault and Geothermal Well Drilling.