

# CURRICULUM VITAE

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## **Personal:**

Data of Birth October, 12, 1941  
Place of Birth Moscow, Russia  
Marital Status Married, two children

## **Education:**

1965 B.S., M.S. in Physics, National Research Nuclear University - Moscow Engineering Physics Institute, Russia  
1975 PhD in applied physics, Russian Technological Institute  
1987 Dr. of Science (Physics and Mathematics) in Geophysics.  
**Thesis:** "Theoretical and Experimental Base of Optical Scanning Technique for Rock Thermal Property Measurements and It's Application in Geophysics",  
Institute of Physics of the Earth, Russian Academy of Sciences, Moscow, Russia.

## **Titles**

- Professor in Geophysics, 1987
- Honoured Scientist of Russian Federation, 2009
- Member of Russian Academy of Earth's Sciences, 2001

## **Fields**

- Basic and applied geothermics
- Petrophysics
- Thermal methods of enhanced oil recovery

## **Professional Experience**

- Development of advanced experimental methods and equipment in geothermics and thermal petrophysics (1981-today),
- Experimental investigations of geothermal parameters of the crust in super-deep and deep continental scientific wells (USSR, Germany, Russia, USA, Mexico, 1982-2015),
- Thermal petrophysics for oil and gas fields (1998 – today)
- Thermal methods of enhanced oil recovery (2007 – today)
- Basin and petroleum system modeling (2012 – today)

## Positions

1965 - 1968	Researcher, Institute of Impulse Technology, Ministry of Engineering
1968-1976	PhD student, Senior researcher, Institute of Introscopy, Ministry of Electronics and Instrument-Making Industry, Moscow, Russia
1976-1989	Associate Professor, Professor of Russian State Geological Prospecting University
1989-2010	Head of Department of Technical Physics and Rock Physics of Russian State Geological Prospecting University
1984-2010	Scientific leader of Research Laboratory of Geothermic Problems (Russian State Geological Prospecting University),
2010-2014	Scientific advisor in petrophysics of Schlumberger Moscow Research Center
2014-today	Scientific consultant of Schlumberger Moscow Research Center (part time)
2014-today	Principal scientist of Skolkovo Institute of Science and Technology

## Membership:

- Member of International Heat Flow Commission of IASPEI (1999 - today)
- Chairman of International Heat Flow Commission of IASPEI (2011 - 2015)
- Past-chairman of International Heat Flow Commission of IASPEI (2015 - today)
- Full member of Russian Academy of Earth's Sciences (1997 - today)
- Member of Council on Geothermics of Russian Academy of Sciences (1991 - today)
- Member of Council of experts (Earth's sciences) of Russian Foundation for Basic Research (1996-2005),
- Head of the Working group of International Society of Rock Mechanics for development of the standard "ISRM-Suggested Methods for Determining Thermal Properties of Rock Samples" (2013 - today)
- Member of Editorial board of journal "Geologiya i Razvedka" (Geology and Prospecting) (Russia) (2014 - today)
- Member of Advisory Board of E.ON Energy Research Center (2012 - today)

## Educational University activity

### *Russian State Geological Prospecting University (1976-2010)*

1976-2010 – Delivering lectures on course "Physics".

1985-1988, 1996-2005 – Development and following modification of new course "Applied Geothermics" and delivering lectures on the course.

2005-2010 – Modification of the course "Petrophysics" and delivering lectures on the course.

1989 - Creation of new department "Technical Physics and Rock Physics".

1989-2010 - Chairing department "Technical Physics and Rock Physics".

1989-2008 – Membership in Scientific Council.

1989-2005 - Creation and leadership of Educational complex including 2 Colleges, 4 lyceums, 2 technical secondary schools under Russian State Geological Prospecting University.

1982 – today – Leadership of scientific activity of students (12 personal awards, 16 student awards including 4 State awards).

1989 – today – Membership in Doctorate Council on doctoral theses defense.

### *Skolkovo Institute of Science and Technology*

2015 – today – Membership in Scientific-Technical Council of Skolkovo Institute of Science and Technology.

2015 – Leadership of Master student of Russian State Geological Prospecting University

2015 – Leadership of post-graduate student of Moscow Physical Technical University (Phystech).

## PhD leading

10 PhD students successfully defended dissertations (1978-2012): A. Karpelson (Introscopy Research Institute, Moscow), V. Tertychniy, A. Mandel (Russian State Geological Prospecting University), A. Bangura, M. Bangura (Guinea), D. Korobkov, S. Novikov, D. Miklashevskiy, N. Tarelko (Russian State Geological Prospecting University), A. Parshin ((Moscow Research Center of OOO «Technological Company Schlumberger»)).

## **International Recognition**

- Chairman of International Heat Flow Commission (elected in 2011)
- Member of International Heat Flow Commission (elected in 1999)
- Chairman of Organizing Committee of I International Conference “The Earth’s Thermal Field and Related Research Methods”, Moscow , Russia (1998)
- Chairman of Organizing Committee of II International Conference “The Earth’s Thermal Field and Related Research Methods”, Moscow, Russia (2000)
- Chairman of Organizing Committee of III International Conference “The Earth’s Thermal Field and Related Research Methods”, Moscow, Russia (2002)
- Chairman of Organizing Committee of IV International Conference “The Earth’s Thermal Field and Related Research Methods”, Moscow, Russia (2004)
- Co-Chairman of International Conference “Rock’s Thermal Properties at Elevate Pressure and Temperature”, Kiev, Ukraine (2006)
- Chairman of Organizing Committee of V International Conference “The Earth’s Thermal Field and Related Research Methods”, Moscow, Russia (2008)

### ***Convener and co-convener of sessions of International Conferences and Workshops:***

- International Conference “New Ideas in Earth’s Sciences”, Moscow, Russia (1996 – 2007)
- International Conference on Geothermics, Trest, Czech Republic (1997)
- International Conference on Continental Deep Drilling, Kiev, Ukraine (1997)
- Assembly of Asian Committee on Seismology and Physics of Earth Interior, Erevan, Armenia (2004)
- IASPEI Assembly, Capetown, South Africa Republic (2010)
- IUGG General Assembly, Melbourne, Australia (2011)
- IASPEI-IAHS-IAPSO Assembly, Gothenburg, Sweden (2013).

### ***Lecturer (1994-2013):***

Technical University Berlin, Frei University Berlin, Karlsruhe University, Muenchen University, Kiel University, Freiberg University, GFZ-Potsdam, GGA Hannover, RWTH University Aachen, University Darmstadt (all – Germany), University Michigan (USA), Moscow State University (Russia), Moscow Physical Technical University (MFTI), Russian I.M. Gubkin University of Oil and Gas, Educational Center “PetroGIS” (Russia), Lukoil, Rosneft, Gazprom нефт.

## **International cooperation**

1994, 1996, 1998	Research work in Germany (TU Berlin, GGA Hannover, GFZ Potsdam, Muenchen University) at DFG support
1996-1998	INTAS project with GGA Hannover and Geological Survey of Finland
2002 -2010	ICDP-DFG projects with TU Berlin and Karlsruhe University (Germany)
1998-2010	Joint projects with Schlumberger Oilfield Service
1987-2015	Participation with presentations in 63 International Conferences

## **Leadership of research projects**

More than 40 research projects led in 1970-2014.

- Leadership of 14 research projects for geothermic and petrophysical investigations within Program of Super-Deep and Deep Continental Scientific Drilling in former USSR and Russia (7 super-deep and 4 deep wells, 1985-2011).
- Leadership of 12 research projects at support of Russian Foundation of Basic Research (RFBR) (1993-2008).
- Leadership of scientific-educational project “Integratsiya” (Integration) with collaboration of Russian State Geological Prospecting University, Moscow State University and Institute of Earth’s Physics of RAS (1998-2000).
- Leadership of 14 joint research projects in Russian State Geological Prospecting University with Schlumberger Oilfield Service (1998-2008).
- Leadership of 7 external projects in Schlumberger Moscow Research Center with Russian and foreign oil and gas companies (2009-2014).

***Last projects led in 2010-2014:***

- Research project RFBR 08-05-00977 « Experimental investigations of geothermal parameters of crustal blocks in drilling sites of scientific and parametric wells” (2008-2010);
- Research project “Investigations of rock thermal properties for petrophysical support of heavy oil recovery in heavy oil field Uyglekuty, Sakhalin” between Russian State Geological Prospecting University and OOO “Technological company Schlumberger” (2010);
- Research project “Expertise of quality of reservoir thermal property data and support of thermohydrodynamic modeling on sector models of perm’-carbon deposit of Usinskoye oil field” between OOO “Technological company Schlumberger” and branch of OAO “Lukoil-Engineering” – PechorNIPIneft” (2010);
- Research project № TCS SMR-MSU-18062011 from 18.06.2011 “Investigations of thermal properties of bazhen svite of Malobalyk oil field” between OOO “Technological company Schlumberger” and Moscow State University (2011-2012);
- Research project C211828 from 01.10.2011 “Thermal Rock and Fluid Properties at Elevated Temperatures on Core Plugs from Amal Field (Oman)” between Schlumberger Moscow Research Center and «Petroleum Development of Oman» (2011-2012);
- Research project № LUK-Eng-WT-0512-01/120009-3 “Experimental investigations of perm’-carbon deposit of Usinskoye oil field for the purpose of improvement of modeling and designing experimental-industrial works” between OOO “Technological company Schlumberger” and branch of OAO “Lukoil-Engineering” – “PechorNIPIneft” (2013-2014);
- Research project MUK-S0-2013-240425 from 20.11.2013 “Thermal Property Analysis for Cores from Mukhaizna Field, Oman” between OOO “Technological company Schlumberger” and «Occidental Petroleum Corporation» (2013-2014);
- Research project № TCS-SMR-GSRC-25092013 “Investigations of thermal properties of rocks from Kamchatka geothermal field at reservoir thermobaric conditions” between OOO “Technological company Schlumberger” and Geotechnological Research Center of Far Eastern branch of Russian Academy of Sciences (2013-2014).

**Reviewer of journals**

Tectonophysics, Geothermics, International Journal of Thermal Sciences, International Journal of Heat and Mass Transfer, Applied Clay Science, Natural Resources Journal, Marine and Petroleum Geology, Geology and Geophysics, Izvestiya, Physics of the Solid Earth, Geology and Exploration (in Russian)

## **PATENTS AND PUBLICATIONS**

### *Patents and inventor's certificates*

12 patents and 32 inventors certificates granted.

### *Papers*

- 7 chapters and sections in monographs,
- 95 articles in peer reviewed journals,
- 49 articles in collected papers,
- 61 papers in proceedings with extended abstracts,
- 71 abstracts published in abstract volumes,
- 21 tutorials (internal in Russian State Geological Prospecting University),
- 18 reports for Russian Foundation for Basic Research.

### *Editing*

5 volumes of collected papers.

### *Internal reports*

24 Schlumberger internal reports (1998-2014).

## **List of principal publications**

### *Chapters and sections in monographs*

Popov Yu., Romushkevich R., Popov E. 1997. Thermophysical investigations of rocks from Tyumen super-deep well cross-section. In: Tyumen super-deep well. Eds: L.Pevzner, T.Belokon'. Perm', KamNIKIGS and GNPP "Nedra", 285 p.

Popov Yu., Pevzner S., Pimenov V., Romushkevich R., Pevzner L. 1998. Thermal properties of rocks and heat flow of SG-3 cross-section. In: Kola super-deep well. Scientific results and experience of investigations. Eds: Orlov V., Laverov N. Moscow, Technoneftegas, 260 p.

Popov Yu., Romushkevich R., Popov E., Bashta K. 1999. Geothermic characteristics of Ural SG-4 well cross-section. In: Results of drilling and investigations of Ural super-deep well. Yaroslavl', Eds: Orlov V. and Pevzner L. FGUP "Nedra", 346 p.

Popov Yu., Pevzner L., Romushkevich R., Pimenov V., Shlafstein E. 1999. Thermal regime of Puchezhe-Katunk impact structure. In: Deep drilling Puchezhe-Katunk impact structure. Eds: Orlov V. and Pevzner L. St.-Petersbourg, VSEGEI, 382 p.

### *In peer reviewed journals*

Popov Yu. 1983. Theoretical models of the method of determination of the thermal properties of rocks on the basis of movable sources. *Geologiya i Razvedka (Geology and Prospecting) Part I*, 9, 97-105 (in Russian).

Popov Yu. 1984. Theoretical models of the method of determination of the thermal properties of rock on the basis of movable sources. *Geologiya i Razvedka (Geology and Prospecting) Part II*, 2, 83 – 89 (in Russian).

Popov Yu. 1984. Peculiarities of the method of detailed investigations of rock thermal properties *Geologiya i Razvedka (Geology and Prospecting) 4*, 76-84 (in Russian).

- Popov Yu., Semionov V., Korosteliy V., Berezin V. 1983. Non-contact evaluation of thermal conductivity of rocks with aid of a mobile heat source. *Izvestiya, Physics of the Solid Earth*, 1, 563-567.
- Popov Yu., Berezin V., Semionov V., Korosteliy V. 1985. Complex detailed investigations of the thermal properties of rocks on the basis of a moving point source. *Izvestiya, Physics of the Solid Earth*, 1, 64-70.
- Popov Yu., Berezin V., Semionov V. 1985. Evaluating the thermal conductivity of anisotropic minerals and rocks. *Izvestiya, Physics of the Solid Earth*, 7, 565-570.
- Popov Yu., Berezin V., Soloviov V., Romushkevitch R., Korosteliy V., Kostiyurin A., Kulikov A. 1987. Thermal conductivity of minerals. *Izvestiya, Physics of the Solid Earth*, 3, 241-253.
- Popov Yu. 1997. Optical scanning technology for non-destructive contactless measurements of thermal conductivity and diffusivity of solid matters. In: *Experimental Heat Transfer, Fluid Mechanics and Thermodynamics*. Eds. M.Giot, F.Mayinger, G.P.Celata. Edizioni ETS. 109-115.
- Popov Yu., Pimenov V., Pevzner L., Romushkevich R., Popov E. 1998. Geothermal characteristics of the Vorotilovo deep borehole drilled into the Katunk impact structure. *Tectonophysics*. 291, 205-213.
- Popov Yu., and Mandel A. 1998. Geothermic investigations of anisotropic strata. *Izvestiya, Physics the Solid Earth*. 11, 33-43.
- Popov, Yu., S. Pevzner, V. Pimenov, Romushkevich. 1999. New geothermal data from the Kola superdeep well SG-3. *Tectonophysics*. 306, 345-366.
- Popov Yu., Pribnow D., Sass J., Williams C., Burkhardt H. 1999. Characterisation of rock thermal conductivity by high-resolution optical scanning. *Geothermics*. 28, 253-276.
- Popov Yu., Tertychnyi V., Romushkevich R., Korobkov D., Pohl J. 2003. Interrelations between thermal conductivity and other physical properties of rocks: Experimental data. *Pure and Applied Geophysics*. 160, 1137-1161.
- Popov Yu., Pohl J., Romushkevich R., Tertychnyi V., Soffel H. 2003. Geothermal characteristics of the Ries impact structure. *Geophysical Journal International*. 154 (2), 355-378.
- Popov Yu., Romushkevich R., Bayuk I., Korobkov D., Mayr S., Burkhardt H., Wilhelm H. 2004. Physical properties of rocks from the upper part of the Yaxcopoil-1 drill hole, Chicxulub crater. *Meteoritics and Planetary Science* 39 (6), 799-812.
- Wilhelm H., Popov Yu., Burkhardt H., Safanda J., Cermak V., Heidinger Ph., Korobkov D., Romushkevich R., Mayr S. 2005. Heterogeneity effects in thermal borehole measurements in the Chicxulub impact crater. *Geophysics and Engineering*, 2, 357-363.
- Mottaghy D., Schellschmidt R., Popov Yu., Clauser C., Kukkonen I., Nover G., Milanovsky S. 2005. New heat flow data from the immediate vicinity of the Kola super-deep borehole: Vertical variation in heat flow confirmed and attributed to advection. *Tectonophysics*, 4, 1-24.
- Mayr S., Burkhardt H., Popov Yu., and Wittmann A. 2007. Estimation of hydraulic permeability considering the micro morphology of rocks of the borehole YAXCOPOIL-1 (Impact crater Chicxulub, Mexico). *Int. J. Earth Sci. (Geol. Rundsch.)*, 97, 385-399.
- Mayr S., Wittmann A., Burkhardt H., Popov Yu., Romushkevich R., Bayuk I., Heidinger Ph., Wilhelm H. 2008. Integrated interpretation of physical properties of rocks of the borehole YAXCOPOIL-1 (Chicxulub impact structure). *J. Geophys. Res.*, 113, 21.
- Mayr S., Burkhardt H., Popov Yu., Romushkevich R., Miklashevskiy D., Gorobtsov D., Heidinger Ph., Wilhelm H. 2009. Physical rock properties of the Eyreville core, Chesapeake Bay impact structure. *Special Paper of the Geological Society of America*. 458, 137-163.
- Heidinger P., Wilhelm H., Popov Y., Safanda J., Burkhardt H., Mayr S. 2009. First results of geothermal investigations, Chesapeake Bay impact structure, Eyreville core holes. *Special Paper of the Geological Society of America*. 458, 931-940.

- Popov Y., Spasennykh M., Miklashevskiy D., Parshin A., Stenin V., Chertenkov M. 2010. Thermal properties of formations from core analysis: evolution in measurement methods, equipment, and experimental data in relation to thermal EOR. CSUG/SPE 137639.
- Popov Yu., Spasennykh M., Miklashevskiy D., Parshin A., Stenin V., Chertenkov M. 2010. Thermal properties of formations from core analysis: evolution in measurement methods, equipment, and experimental data in relation to thermal EOR. Proceedings of the Canadian Unconventional Resources & International Petroleum Conference. Calgary, Alberta, Canada.
- Popov Y. 2012. Evolution in the reliability of experimental geothermal data. Proceedings of the 2012 Australian Geothermal Energy Conference. Edited by C. Huddleston-Holmes and E. Gerner. Sydney, Australia, Geoscience Australia Record 2012/73, GeoCat 74874, 138-146.
- Chekhonin E., Parshin A., Pissarenko D., Popov Y., Romushkevich R., Safonov S., Spasennykh M., Chertenkov M., Stenin V. 2012. When rocks get hot: Thermal properties of reservoir rocks. Oilfield Review. 24 (3), 20-37.
- Popov Yu., Romushkevich R., Korobkov D., Mayr S., Bayuk I., Burkhardt H., Wilhelm H. 2011. Thermal properties of rocks of the borehole Yaxcopoil-1 (Impact Crater Chicxulub, Mexico). Geophysical Journal International, 184, 729-745.
- Popov Yu., Chertenkov M., Stenin V., Konoplev Y., Gerasimov I., Spasennykh M., Parshin A. 2012. Experimental investigations of rock thermal properties using new methods and equipment in the Yarega heavy oil field. WHOC12-292. 13 p.
- Popov Yu., Parshin A., Ursegov S., Taraskin E., Chekhonin E., Andrianov N., Bayuk I., Pimenov V. 2012. Thermal reservoir simulation: thermal property data uncertainties and their influence on simulation results. WHOC12-291. 11 p.
- Popov Yu., Parshin A., Al-Hinai S., Miklashevskiy D., Popov E., Dyshlyuk E., Chekhonin E., Safonov S., Khan R. 2013. Experimental investigations of reservoir thermal properties for heavy oil field in Oman with new methods and equipment. WHOC14 – 258. 16 p.
- Popov Y., Mayr S., Romushkevich R., Burkhardt H., Wilhelm H. 2014. Comparison of petrophysical properties of impactites for four meteoritic impact structures. Meteoritics and Planetary Science. 49 (5), 896-920.