

CURRICULUM VITAE

Gliko Alexander Olegovich

Personal Information

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Birthdata and birthplace: 1 January 1948, Moscow

Citizenship: Russia

Highest scientific degree
Doctor of Science (geophysics)

Academic title
Academician (Full member of the Russian Academy of Sciences),
Professor

Permanent position at the Presidium of Russian Academy of Sciences:
Secretary-academician, Earth sciences branch
also at the Institute of Physics of the Earth RAS
Head of the Department of Geodynamics and
Lab. of Theoretical Geophysics,
and at the M.V. Lomonosov Moscow State University,
Chair of the Solid Earth's Physics, Professor

Academic Background

1972 - Lomonosov Moscow State University, Faculty of Physics, Department of
Geophysics - M.S.

- 1976 - Lomonosov Moscow State University, Faculty of Physics , Department of Geophysics - Ph.D.
1989 - Institute of Physics of the Earth, Academy of Sciences of the USSR, - D.Sci.

Employment History

- 1966- 1972 student at the Moscow State University, Dept. of Geophysics,
1972- 1976 postgraduate student at the Moscow State University, Dept. of Geophysics,
since 1976 at the Institute of Physics of the Earth, Academy of Sciences,
Senior research scientist from 1978 to 1985
Head of laboratory from 1985 up to now
Deputy director from 1993 and also head of the department from 1998
Director from 2003 up to 2013
since 2008 up to now at the Presidium of Russian Academy of Sciences:
Secretary-academician, Earth sciences branch

Teaching Experience:

Lecturer at:

1985 - 1988 - Moscow Institute for Geodesy - graduate course "Physics of the Earth" (two groups – 100 students with specialization in Astronomy and Geodesy and 35 students with specialization in Engineering Geology)

1989-1992 - Lomonosov Moscow State University, ,
(Department of Geophysics) - graduate course
"Geothermics" (10-15 students)

1989-1998 - Lomonosov Moscow State University,
(Department of Geophysics) - Introductory course "Petrology for geophysicists" (10-15 students)[#]

since 1993 - professor at the Moscow State University
(Department of Geophysics) -

(a) graduate course "Geothermics or everything about the Earth's temperature" (10-15 students)[#]

(b) undergraduate course "Introduction to Geophysics (Solid Earth)"
(400 students – all undergraduate students of the Physical Department)[#]

Research Experience and Interests

- 1971- 1973 - modeling of effective elastic and anelastic properties of polycrystalline materials and rocks, attenuation of seismic waves (physical mechanisms),
- 1973- 1974 - seismology, interpretation of data on seismic sounding of magma chambers in Kamchatka, physical properties of rocks in the interval of partial melting,
- 1974- 1976 - theory of effective elastic and anelastic parameters of two-phase materials and rocks,
- 1976 -1992 - modeling of phase-change boundaries movements in the Earth, study of non-steady state thermal regime of continental lithosphere, thermal processes in the rift zones, use of petrochemical data on the evolution of igneous rocks for reconstruction of paeleothermal regimes, phase transformations in rocks, tectonothermal events and evolution of the lithosphere, physical processes in the contact aureoles of intrusive bodies.
- 1992 -present - physical aspects of metamorphic processes, numerical modeling of transport properties of rocks, modeling of heat and mass transfer in active hydrothermal systems, thermal regime and geodynamics of collisional zones.

Honors and awards

Presidential fellowships for outstanding scientists: - 1993 and 1996.
Corresponding member of the Russian Academy of Sciences -
elected 30.05.1997
Academician (Full member) – elected 30.05.2006

Editorial activity

Editor-In-Chief of '*Physics of the Solid Earth*' (since 1993 to 2014), now
member of the editory board,
member of the editory board of '*Geotectonics*'

Participation in International scientific cooperation

Member of Scientific Board of International Geoscience Program (2000 – 2004)
National representative at IASPEI and ICSU
Co-Chairman of ILTP

Served as a coordinator of many joint research projects with scientists from Germany, France, China, India

Hobby

classical music, football

SOME IMPORTANT PUBLICATIONS

Gliko, A.O., 1973. On the attenuation of seismic waves due to the mechanism of thermal relaxation, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No.4

Chesnokov, E.M. & Gliko, A.O., 1973. Elastic parameters of transversally isotropic homogeneous model of upper mantle, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 3

Gliko, A.O., 1976. Effective elastic moduli and Q of two-phase media, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 5

Gliko, A.O., 1976. Seismic sounding of magma chambers: data interpretation, *Doklady Akademii Nauk USSR*, **226**, No. 5

Gliko, A.O. & Zharkov, V.N., 1977. On the attenuation of seismic waves in partially molten rocks, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 5

Farberov, A.I., Levykin, A.I. & Gliko, A.O., 1977. High pressure study of elastic parameters of inhomogeneous medium in the temperature range of filler melting, *Doklady Akademii Nauk USSR*, **235**, No. 2

Gliko, A.O. & Efimov, A.B., 1978. On the movement of a phase- change boundary under changing heat flow, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 7

Gliko, A.O., 1979. Elastic and anelastic properties of magma chamber's material inferred from the data on seismic sounding. In *Problems of deep seated Magmatism*, pp. 210-234, ed. Sobolev V.S., Nauka, Moscow.

Farberov, A.I., Gliko, A.O. & Levykin, A.I., 1979. Elastic properties of heterogeneous medium under high pressures and temperatures of partial melting. In *Problems of deep seated Magmatism*, pp. 210-234, ed. Sobolev V.S., Nauka, Moscow.

Gliko, A.O. & Efimov, A.B., 1979. On the movement of a phase- boundary in the lithosphere, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 3

Gliko, A.O. & Efimov, A.B., 1979. On the dynamics of phase-change boundaries in the continental lithosphere, *Doklady Akademii Nauk USSR*, **245**, No. 4

- Gliko, A.O. & Efimov, A.B., 1979. Implication of perturbation theory to the multiphase Stefan problem, *Izvestiya Akademii Nauk USSR, Mekhanika tverdogo tela*, No. 6
- Farberov, A.I., Gliko, A.O. & Levykin, A.I., 1980. Study of elastic properties of composite material under high P-T parameters. In *Physical Properties of Matter under High Pressures and Temperatures*, pp. 69-74, Nauka, Moscow.
- Gliko, A.O. & Efimov, A.B., 1980. Application of the small parameter method to the solution of classical Stefan problem, *Inzhenerno-physicheskii zhurnal*, **38**, No. 2
- Levykin, A.I., Farberov, A.I., Gliko, A.O. & Nasimov, R.M., 1981. Physical-mechanical properties of heterogeneous media at pressures up to 16 kbar in the interval of filler melting, *Phys. Earth Planet. Int.*, **26**, 163-170
- Gliko, A.O. & Rovenskikh, O.N., 1982. On the movement of the base of the lithosphere under laterally changing heat flow, *Doklady Akademii Nauk USSR*, **267**, No. 1
- Gliko, A.O., Efimov, A.B. & Labutin, S.A., 1983. An analysis of the approximate solution for the Stefan problem at the segment, *Inzhenerno-physicheskii zhurnal*, **41**, No. 6
- Gliko, A.O. & Rovenskikh, O.N., 1985. A numerical study of the thermal thinning of the lithosphere due to the intensive heating, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 6
- Gliko, A.O. & Rovenskikh, O.N., 1985. Thinning of the lithosphere at the initial stage of continental rifting and estimates of heat flow from the hot anomalous mantle, *Doklady Akademii Nauk USSR*, **284**, No. 6
- Gliko, A.O., Grachev, A.F. & Magnitsky, V.A., 1985. Thermal models for lithospheric thinning and associated uplift in the neotectonic phase of continental rifts development and intraplate volcanism, *J. Geodynamics*, **3**, 137-154
- Gliko, A.O., 1986. On the movement of phase-boundaries in the continental lithosphere, *Doklady Akademii Nauk USSR*, **286**, No.4
- Gliko, A.O., 1986. Asymptotic solution for the problem of thermal thinning of the lithosphere, *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 4
- Artemieva, I.M. & Gliko, A.O., 1986. Thermal model for the neotectonic rejuvenation (with special reference to the Tien Shan), *Izvestiya Akademii Nauk USSR, Fizika Zemli*, No. 5
- Gliko, A.O. & Sobolev, S.V., 1986. Phase transformations and vertical crustal movements related to the convective thinning of continental lithosphere, *Doklady Akademii Nauk USSR*, **289**, No.2
- Gliko, A.O. & Grachev, A.F., 1987. On the physical nature of the deep-seated processes

- responsible for the intraplate magmatism and continental rifting, *Doklady Akademii Nauk USSR*, **295**, No.1
- Gliko, A.O., Singh, R.N. & Manglik, A. 1992. Application of a heat balance method for the solution of strongly non-steady state geothermal problems, *Fizika Zemli*, No. 5
- Manglik, A., Gliko, A.O. & Singh R.N., 1992. Application of the Fourier method to the numerical solution of moving boundary problems in heat conduction, *Proc. Indian Acad. Sci., Earth Planet. Sci.*, **101**, 77-88
- Gliko, A.O., 1992. Thermal expansion anisotropy and internal friction in rocks and polycrystalline materials. In *Thermal properties of rocks under crustal conditions*, pp. 45-57, ed. Buntebarth G., German Phys. Soc. Publ., Clausthal-Zellerfeld.
- Buntebarth, G. & Gliko, A.O., 1993. Thermal properties of rock-forming minerals and terrestrial heat flow. In *Advanced Mineralogy*, pp. 68-72, ed. Marfunin A.S., Springer-Verlag, Berlin-Heidelberg.
- Gliko, A.O. & Petrunin, A.G., 1993. Narrow convective plumes in the medium with inhomogeneous permeability: modelling of hydrothermal heat transport in the vicinity of small intrusive bodies, *Fizika Zemli*, No.12
- Manglik, A., Gliko A.O. & Singh R.N. 1995. Movement of the lithosphere-asthenosphere interface in response to erosion of thickened continental lithosphere: a moving boundary approach, *Geophys. J. Intern.*, **122**, No. 2
- Gliko, A.O. & Petrunin A.G., 1995. Modeling of heat and mass transfer in the vicinity of a small intrusive body emplaced into an inhomogeneous permeable medium. In *Proceedings of the World Geothermal Congress*, v. 2, pp. 1111-1116, Florence.
- Gliko, A.O. & Petrunin, A.G., 1996. Quasi-steady state models for heat- and mass transfer in the “black smoker” systems, *Doklady RAN*, **346**, No. 5
- Gliko, A.O. & Somin, M.L., 1998. Thermal regime of the crust and metamorphic “effet de socle” revealed in the fold belts near the interface “basement - sedimentary cover”, *Fizika Zemli*, No.6
- Gliko, A.O. & Petrunin, A.G., 1998. Modeling heat- and mass transfer evolution in the complex “black smoker – magma chamber”, *Fizika Zemli*, No.7, pp. 3-10
- Vanyan, L.L. & Gliko, A.O., 1999. Seismic and electromagnetic evidence of dehydration as a free water source in the reactivated crust, *Geophys. J. Intern.*, **137**, No. 1, 159-162.
- Gliko, A.O., Singh, R.N. & Swathi, P.S. 1999. Physical approach to the problem of origin of charnockitic rocks of southern India: mechanisms of crustal heating and transfer of carbon dioxide, *Russian J. Earth Sci.* No. 5

Gliko A.O. & Petrunin A.G. 2000. Modeling heat and mass transfer in sea-floor black smokers and their interaction with magma chambers. In: Geophysics at the Beginning of a New Millennium. Publ. IPE, Moscow, pp.34-45.

Gliko, A.O. & Parsegov D.V., 2012 Computer simulation of transport properties of rocks (permeability and electrical conductivity) during metamorphism, *Fizika Zemli, No.8*

Gliko, A.O. & Molodensky S.M. , 2015 On the gravity anomalies related to lateral temperature variation in the Earth, *Fizika Zemli, No. 1, 1-18*

D. Patents

Aliev, S.A., Mukhtarov, A.Sh. & Gliko, A.O., 1988. Device for measurements of temperature and thermal conductivity of water and sea-bottom sediments, a/c 1465722, Moscow

Ustyuzhanin, L.V., Vinogradov, N.V. & Gliko, A.O., 1989. Device for the underwater hammering, a/c 1465794, Moscow