



Manana Togonidze

Position

Alexandre Janelidze Institute of Geology of Ivane Javakhishvili Tbilisi State University, Department of Petrology, Volcanology, Mineralogy and Lithology, Senior scientist.

Scientific/academic degree, title

Candidate of geological-mineralogical sciences (1973). Dissertation topic – “Petrology of the Gorabi Intrusion”.

Contact information

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Education

1955-1960 - Polytechnic Institute of Georgia, engineer-geologist.

Employment history

1963-1978 – Junior scientist of the Department of Minerals of the Alexandre Janelidze Geological Institute;

1978-2009 – Senior Scientist of Department of Isotope Geochronology of Alexandre Janelidze Geological Institute;

2009-2015 – Senior Scientist of Department of Mineral Resources, Geochemistry and Isotopic Geochronology of Alexandre Janelidze Institute of Geology of Ivane Javakhishvili Tbilisi State University;

2015 - up-to present – Senior Scientist of Department of Petrology, Volcanology, Mineralogy and Lithology of Alexandre Janelidze Institute of Geology of Ivane Javakhishvili Tbilisi State University.

Research interests

Petrology and Isotopic Geochronology of magmatic rocks

Publications

1. *Giorgi Vashakidze, Anton V. Parfenov, Ketevan Gabarashvili, Manana Togonidze, Tamar Beridze, Vladimir A. Lebedev* (2021). Quaternary volcanic activity in the Greater Caucasus: a review of Elbrus, Kazbek and Keli volcanoes. In book "Building Knowledge for Geohazard Assessment and Management in the Caucasus and other Orogenic Regions". Springer, P.O. Box 17, 3300 AA Dordrecht, the Netherlands. Edition Number 1, pp. 217-239.
<https://doi.org/10.1007/978-94-024-2046-3>
2. *G. Vashakidze, M. Togonidze, V. Lebedev, K. Lobzhanidze* (2020). Eocene magmatism in the Loki massif. Proceedings of Alexandre Janelidze institute of geology of Ivane Javakhsishvili Tbilisi State University, new series, vol. 132, pp. 103-110.
3. *G. Maisuradze, M. Togonidze, K. Gabarashvili* (2020). Stratigraphy and paleogeography of the volcano Patara Tkarsheti (Kazbegi volcanic massif). Proceedings of Al. Janelidze Institute of Geology, new series, vol. 132, pp. 145-157 (in Georgian).
4. *V.A. Lebedev, A.V. Parfenov, G.T. Vashakidze, Q.A. Gabarashvili, I.V. Chernyshev, M.G. Togonidze* (2018). Chronology of Magmatic Activity and Petrologic–Mineralogical Characteristics of Lavas of Kazbek Quaternary Volcano, Greater Caucasus. Petrology, vol. 26, №1, pp.1–28. DOI: 10.1134/S086959111801006X
5. *David Shengelia, Ketevan Chikhelidze, Manana Togonidze, Giorgi Beridze, Ketevan Gabarashvili, Irakli Javakhsishvili* (2017). Genetic Typification of Zircons from Infrastructure of the Elbrus Sub-terrane (Caucasus). Bull. of the Georgian Nat. Acad. of Sciences, vol. 11, no.1, pp. 85-89.
6. *V.A. Lebedev, O.Z. Dudaury, M.G. Togonidze, Yu.V. Gol'tsman* (2016). The Age of Young Intrusions of Tsana Complex (Greater Caucasus) and Isotope_Geochemical Evidence for Their Origin from Hybrid Magmas. Petrology, vol. 24, №4, pp. 315-335 (in Russian).
7. *O.Z. Dudaury, M.G. Togonidze* (2016). Petrology and Isotope Geochronology of Mesozoic Intrusive Complexes of Georgia. Monogrph, P. 338 (in Russian).
8. *G. Vashakidze, R. Akhvlediani, I. Akhvlediani, V. Lebedev, K. Gabarashvili, O. Dudaury, M. Togonidze* (2015). Some Features of the Chemistry of Quaternary Volcanism of the Keli Highland (the Greater Caucasus). Proceedings of Institute of Geology, new series, vol. 127, pp. 137-146 (in Russian).
9. *O. Dudaury, M. Togonidze, V. Lebedev, G. Vashakidze, K. Gabarashvili, K. Lobzhanidze* (2015). Stages of Development of Neogene-Quaternary Acid Magmatism on the Southern Slope of the Greater Caucasus in Upper Racha and Lower Svaneti. Proceedings of Al. Janelidze Institute of Geology. New series, vol. 127, pp. 123-134 (in Georgian).
10. *O.Z. Dudaury, M.G. Togonidze, G.T. Vashakidze* (2010). General Peculiarities of the Development of the Mesozoic Magmatism of Georgia. Proceedings of Al. Janelidze Institute of Geology, new series, issue 125, pp. 24-40 (in Georgian).
11. *G.T. Vashakidze, R.A. Akhvlediani, O.Z. Dudaury, M.G. Togonidze, V.A. Lebedev* (2008). Some aspects of the formation of volcanic rocks of the Javakheti Highland (South Georgia). Proceedings of Al. Janelidze Institute of Geology, vol. 124, pp. 238-248 (in Russian).
12. *V.A. Lebedev, G.T. Vashakidze, A.V. Chugaev, O.Z. Dudaury, M.G. Togonidze* (2008). New data on the age of magmatic rocks of the Kutaisi region (Western Georgia). Proceedings of Al. Janelidze Institute of Geology, vol. 124, pp. 268-273 (in Russian).
13. *M. Togonidze, O. Dudaury* (2008). Pliocene Volcanic Centre on the Southern Slope of the Greater Caucasus within the Limits of Upper Racha. Proceedings of Al. Janelidze Institute of Geology, new series, issue 124, pp. 232-237 (in Russian).
14. *O.Z. Dudaury, G.T. Vashakidze, M.G. Togonidze* (2008). Clastic Dikes in the Khrami Crystalline Massif. Proceedings of Al. Janelidze Institute of Geology, vol. 124, pp. 226-231 (in Russian).

15. *O.Z. Dudauri, M.G. Togonidze, G.T. Vashakidze* (2007). Sh. A. Azizbekov's Contribution to the Petrographic Study of the Dzirula Crystalline Massif and Modern Concepts on its Structure. Problematic Questions of Geodynamics, Petrology and Metallogeny of the Caucasus (Materials of Scientific Session Dedicated to Sh. Azizbekov's 100th Anniversary). Baku, Pp. 61-70 (in Russian).
16. *N.I. Skhirtladze, O.Z. Dudauri, M.G. Togonidze, G.T. Vashakidze, V.A. Lebedev, R.A. Akhvlediani, M.M. Arakelyants* (2006). K-Ar Age of Teschenites of Georgia and their Geological-Petrological Peculiarities. Isotope dating of ore forming processes, magmatism, sedimentation and metamorphism: Materials of III Rus. Conference on Isotope Geochronology. Moscow, vol. 2, pp. 319-324 (in Russian).
17. *O.Z. Dudauri, M.G. Togonidze, G.T. Vashakidze, M.B. Lordkipanidze* (2004). Middle Jurassic Volcano-Plutonic Association of the Southern Slope of the Greater Caucasus (within the limits of Georgia) (in Russian). Proceedings of Al. Janelidze Geol. Inst. of the Georgian Acad. of Sci., new series, issue 119, pp. 424-432 (in Russian).
18. *O.Z. Dudauri, G.K. Tsimakuridze, G.T. Vashakidze, M.G. Togonidze* (2000). New data on the age of granitoids of the Daryal massif. Proceedings of Al. Janelidze Geol. Inst. of the Acad. Sci. of Georgia, new series. issue 115, pp. 306-310 (in Russian).
19. *M.G. Togonidze, O.Z. Dudauri* (2000). Petrology and geochronology of the Dzirula crystalline massif. Proceedings of Al. Janelidze Geol. Inst. of the Georgian Acad. of Sci., new series, issue 115, pp. 333-343 (in Russian).
20. *O.Z. Dudauri, M.G. Togonidze, G.T. Vashakidze* (1999). Regional problems of isotope geology. Proceedings of Al. Janelidze Geol. Inst. of the Acad. Sci. of Georgia dedicated to the 90th anniversary of G.M. Zaridze, new series, issue 114, pp. 118-132 (in Russian).
21. *O.Z. Dudauri, M.G. Togonidze* (1998). Petrology and isotope age of the Kirari-Abakuri intrusive complex. Proceedings of Al. Janelidze Geol. Inst. of the Acad. Sci. of Georgia dedicated to the 110th anniversary of A.I. Janelidze, pp. 150-162 (in Russian).
22. *O.Z. Dudauri, M.G. Togonidze* (1993). Petrology and isotope geochronology of the Kelasuri granitoid intrusive. Petrology, Mineralogy and Tectonics, pp. 87-101 (in Russian).
23. *O.Z. Dudauri, M.G. Togonidze* (1991). Some features of the development of Mesozoic intrusive magmatism on the Southern slope of the Greater Caucasus and the Transcaucasian Median Massif. Bull. Moscow Society of Naturalists. Section of geology, v. 66, issue. 2 (in Russian).
24. *G.T. Vashakidze, M.G. Togonidze, N.G. Poporadze* (1991). Cretaceous quartz diorite-porphyrites of the Loki protrusion of the Transcaucasian crystalline substrate. Bulletin of the Acad. Sci. of Georgia, vol. 144, No. 1, pp. 61-64 (in Russian).
25. *K. Balogh, L. Ravasz-Baranyai, O. Dudauri, M. Togonidze* (1991). Dating of ore mineralization in the Kelasuri massif, Great Caucasus, Georgia. "Chemie der Erde". Iena, №2, pp. 107-108.
26. *A. Sherbak, E. Bartnitsky, O. Dudauri, L. Stepaniuk, M. Togonidze* (1991). U-Pb and Rb-Sr isotope dating results for some geological formations, Gorab-Kelasuri intrusive complex, Caucasus. "Chemie der Erde". Iena, №2, pp. 103-106.
27. *E.V. Bibikova, T.V. Gracheva, V.T. Makarov, M.G. Togonidze, G.Ia. Terets* (1991). U-Pb Isotopic age of zircons from quartz diorites, Gorabi massif, Great Caucasus (USSR). "Chemie der Erde". Iena, №2, pp. 100-102.
28. *B. Pokrovsky, O. Dudauri, M. Togonidze* (1991). The oxygen isotope composition of rocks of the Kelasuri and Gorabi massifs. "Chemie der Erde", Iena, №2, pp. 96-99.
29. *O. Dudauri, M. Togonidze, I. Chernishev, H. Gerstenberger* (1991). The Gorab-Kelasuri intrusive complex in the Transcaucasus. Geological setting, petrology and K-Ar ages of biotites. "Chemie der Erde". Iena, №2, pp. 82-86.

30. *O. Dudauri, M. Togonidze, G. Vashakidze* (1990). K-Ar age of granitoids of the Transcaucasian Median Massif. *Vorträge des internationale isotope kolloquim1988 in Freiburg, Leipzig*. C. 441, v. 1, pp. 42-44.
31. *O. Dudauri, V. Vinogradov, M. Togonidze* (1990). Isotopic age of Mesozoic intrusive formations of Georgia (Transcaucasus). V Working Meeting "Isotopes in Nature". Proceedings, part I, Leipzig, pp. 85-93.
32. *M.G. Togonidze, V.I. Vinogradov, O.Z. Dudauri* (1989). New radiogeochronological data on the age of the Khevi-Chalvani intrusive complex of the Dzirula massif. *Bul. Acad. Sci. of GSSR*, vol. 136, № 1, pp. 101-104 (in Russian).
33. *O.Z. Dudauri, M.G. Togonidze, E.N. Bartnitsky* (1989). K-Ar age of Teschenites of Western Georgia. *Bul. Acad. Sci. of GSSR*, vol. 134, № 1, pp. 137-140 (in Russian).
34. *O.Z. Dudauri, M.G. Togonidze* (1989). Some features of the Mesozoic intrusive magmatism in Georgia. In: "Geology and Minerals of the Caucasus". Proceedings of Al. Janelidze Geol. Inst. of the Acad. Sci. of the GSSR. New series, issue 99, pp. 241-248 (in Russian).
35. *O.Z. Dudauri, M.G. Togonidze* (1988). Kelasuri granitoid massif. Guide of geological excursions. Tbilisi, 26 p.
36. *O.Z. Dudauri, M.G. Togonidze* (1984). Mesozoic and Cenozoic intrusive magmatism of the Southern slope of the Greater Caucasus in the limits of Georgia. *Col. of works on the Geology of the Caucasus and the Western Carpathians*. Geol. Institute of the Acad. Sci. of GSSR, D. Shtura Geol. Inst. Bratislava, pp. 115-118.
37. *M.G. Togonidze, T.D. Mchedlishvili* (1981). Regularities of content and distribution of copper in intrusive rocks and minerals of the Kelasuri and Bzyb intrusions. *Bul. Acad. Sci. of GSSR*, vol. 103, №3 (in Russian).
38. *M.G. Togonidze, T.D. Mchedlishvili* (1981). On the issue of the content and distribution of copper in rocks and minerals of the Khevisjvari intrusive. *Bul. Acad. Sci. of GSSR*, vol. 103, №2, pp. 373-376 (in Russian).
39. *M.G. Togonidze, O.Z. Dudauri* (1978). On the Liassic andesitic volcanism in the Central Abkhazia. *Proc. of State Polytechnic Institute*, №1(202), pp. 62-65 (in Russian).
40. *M.G. Togonidze, O.Z. Dudauri* (1977). Biotite from rocks of the Gorab-Kelasur intrusive complex. *СООБЩ.* *Bul. Acad. Sci. of GSSR*, vol. 86, №2, pp. 393-396 (in Russian).
41. *O.Z. Dudauri, D.N. Ketskhoveli, M.G. Togonidze, D.M. Shengelia* (1973). Tectonic wedge of Paleozoic crystalline rocks in the upper reaches of the Atsgara River (Abkhazia). *Bul. Acad. Sci. of GSSR*, vol. 71 №1, pp. 145-148 (in Russian).
42. *O.Z. Dudauri, M.G. Togonidze* (1972). Metamorphic formations of the Piedmont zone. In the book "Issues of the geology of the North-western part of Abkhazia", Metsniereba, pp. 17-21 (in Russian).
43. *O.Z. Dudauri, M.G. Togonidze* (1972). Post-Paleozoic magmatism of Abkhazia and its connection with tectonics. In the book "Issues of the geology of the North-western part of Abkhazia", Metsniereba, pp. 185-197 (in Russian).
44. *M.G. Togonidze* (1971). The skarns of the Gorab intrusion. *Bul. Acad. Sci. of GSSR*, vol. 64, №2, pp. 361-364 (in Russian).
45. *O.Z. Dudauri, M.G. Togonidze* (1970). On the discovery of a crystalline substrate outcrop in the Central Abkhazia. *Bul. Acad. Sci. of GSSR*, vol. 60 №1, pp. 133-135 (in Russian).
46. *M.G. Togonidze* (1970). On the petrology of granite aplites and pegmatites of the Gorabi intrusion (Abkhazia). *Bul. Acad. Sci. of GSSR*, vol. 59, №3, pp. 621-624 (in Russian).

Citation index

Web of science - 22, h-i - 2; Scopus - 14, h-i - 2; Google scholar - 107, h-i - 5.

Participation in scientific forums

1. Quaternary volcanic activity in the Great Caucasus. Giorgi Vashakidze, Vladimir Lebedev, Anton Parfenov, Qetino Gabarashvili, **Manana Togonidze**, Tamar Beridze. NATO Advanced Research Workshop G5566 Building Civil Protection Capacity to Mitigate Geohazards in the Caucasus: A Regional Approach - 8-10 October, 2019, Tbilisi, Georgia. Abstract-20.
2. Xenoliths in volcano Shevardeni lavas (Kazbegi neovolcanic center, Greater Caucasus), Georgia. Ketevan Gabarashvili, **Manana Togonidze**, Giorgi Vashakidze, Manana Kavsadze. 34th IAS Meeting of Sedimentology. 10 - 13 September 2019, Roma. Abstracts book, pp. 548.
3. Are the reddened weathering horizons between the Khertvisi and Toloshi basalt flows (Akhalkalaki volcanic plateau, Georgia) Bole beds? M. Kavsadze, T. Beridze, K. Gabarashvili, K. Lobzhanidze, G. Vashakidze, **M. Togonidze**. 4th International Scientific-Practical Conference on Up-to-date Problems of Geology, Tbilisi, 29-30 May, 2018, pp. 49-51.
4. Quartz in Mkinvartsveri (Kazbegi) quaternary lavas. K. Gabarashvili, I. Akhvlediani, V. Lebedev, A. Parfenov, **M. Togonidze**, G. Vashakidze. 4th International Scientific-Practical Conference on Up-to-date Problems of Geology, Tbilisi, 29-30 May, 2018, pp. 25-28.
5. Shirimi – Georgian Travertine. Manana Kavsadze, Otari Dudauro, **Manana Togonidze**, Giorgi Vashakidze, Ketevan Gabarashvili, Tamar Beridze. 15th Swiss Geoscience Meeting. Davos, 17 – 18 November, 2017, Abstract Volume, pp. 142-143.
6. Morphological Features of Chkheri (the Great Caucasus) and Khertvisi (Southern Georgia) Lava Flows. Ketevan Gabarashvili, Koba Lobzhanidze, Tamar Beridze, Giorgi Vashakidze, Manana Kavsadze, **Manana Togonidze**. 15th Swiss Geoscience Meeting. Davos, 17– 18 November, 2017, p. 117.
7. Physical volcanology of the exposed near village Khertvisi (Southern Georgia) lava flow relict: the preliminary study results. T. Beridze, G. Vashakidze, K. Gabarashvili, K. Lobzhanidze, M. Kavsadze, **M. Togonidze**, I. Dograshvili. 3rd International Scientific-Practical Conference on Up-to-date Problems of Geology, Tbilisi, Georgia, 1-2 June 2017, pp. 36-39.
8. Quaternary andesitic lava exposure within the Gveleti massif. K. Gabarashvili, A. Parfenov, V. Lebedev, G. Vashakidze, **M. Togonidze**. 3rd International Scientific-Practical Conference on Up-to-date Problems of Geology, Tbilisi, Georgia, 1-2 June, 2017, pp. 26-29.
9. The Belt of Pleistocene Dacitic Dikes and a Large Dike in the Glacial Gorge of Zopkhito, within the Limits of Upper Racha. O. Dudauro, **M. Togonidze**, V. Lebedev, K. Gabarashvili, K. Lobzhanidze. Scientific-Practical Conference on Up-to-date Problems of Geology, Tbilisi, Georgia, 23-24 April, 2015. Abstracts, pp. 40-46.
10. Stages and Conditions of the Formation of the Granitoids of Georgia. O.Z. Dudauro, I.P. Gamkrelidze, D.M. Shengelia, T.N. Tsutsunava, **M.G. Togonidze**, G.L. Chichinadze. Scientific Conference "Granitoids: formation conditions and ore content", Kyiv, Ukraine, 2013, pp. 53-54.
11. Mesozoic Magmatism of Georgia (The Caucasus). O.Z. Dudauro, **M.G. Togonidze**. 3rd International Symposium on the Geology of the Black Sea region, 2011, Bucharest, Romania, 1-10 October.
12. Neoproterozoic and Paleozoic suprasubduction regional metamorphism granitoid, magmatism and geodynamics of the Caucasus. Gamkrelidze I., Shengelia D., Tsutsunava T., Dudauro O., Chichinadze G., **Togonidze M.**, Chikhelidze K. Shubitidze L. XIX Congress of the Carpathian-Balkan Geological Association. Thessaloniki, Greece, 23-26 September, 2010, pp. 120-121.

13. Petrology and Isotope Age of Ultrabasic Intrusive of the Gwandra River Gorge (Abkhazia). Dudaury O., **M.G. Togonidze**, Chichinadze G. The International Scientific Conference "Problems of Geology of the Caucasus". Abstracts, 2010, pp. 25-26.
14. K-Ar age of Teschenites of Georgia and their geological and petrological features. N.I. Skhirtladze, O.Z. Dudaury, **M.G. Togonidze**, G.T. Vashakidze, V.A. Lebedev, R.A. Akhvlediani, M.M. Arakelyants. Materials of III Russian Conf. on Isotope Geochronology, Moscow, 2006, v. 2, pp. 319-324.
15. Peculiarities of development of Mesozoic magmatism on the territory of Georgia. O.Z. Dudaury, **M.G. Togonidze**, G.T. Vashakidze. Proceedings of the International Petrological Meeting "Petrography of the XXI century", Apatites, June 20-24, 2005, v. 1, pp. 71-72.
16. Middle Jurassic volcano-plutonic association of the Southern slope of the Greater Caucasus (within the limits of Georgia). O. Dudaury, **M. Togonidze**, G. Vashakidze, M. Lordkipanidze. Scientific session dedicated to the 100th anniversary of Academician Petre Gamkrelidze. Tbilisi, 2003.
17. Geochronology of the processes of ore-bearing systems formation of Georgia. V.I. Buadze, O.Z. Dudaury, G.T. Vashakidze, **M.G. Togonidze**. I Russian Conference on Isotope Geochronology. Moscow, 2000. Abstracts, pp. 73-75 (in Russian).
18. K-Ar age of the granitoids of the Daryal Gorge. O.Z. Dudaury, G.K. Tsimakuridze, G.T. Vashakidze, **M.G. Togonidze**. I Russian Conference on Isotope Geochronology. Moscow, 2000. Abstracts, pp. 35-138 (in Russian).
19. Geochemistry of rare elements in the Gorab-Kelasuri intrusive complex. O.Z. Dudaury, **M.G. Togonidze**, I.N. Krylov. Abstracts of reports of XIX All-Russian Seminar on Geochemistry of Magmatic Rocks. Moscow, 2000, p. 55.
20. Regional Problems of Isotope Geology. O. Dudaury, **M. Togonidze**, G. Vashakidze. Abstracts of the session dedicated to the 90th anniversary of G. Zaridze. Tbilisi, 1998, pp. 25-29 (in Georgian).
21. Geochemistry of rare earth elements in the Gorab-Kelasur intrusive complex. O. Dudaury, **M. Togonidze**. Theses of reports. Working session dedicated to the 70th anniversary of Geological Institute. Tbilisi, 1995, pp. 30-31.
22. Results of isotopic dating of pre-Jurassic igneous rocks of Georgia and their geological interpretation. O. Dudaury, **M. Togonidze**, G. Vashakidze, K. Bakuradze. Abstracts dedicated to the 70th anniversary of Geological Institute. Tbilisi, 1995, pp. 29-30.
23. Isotopic age of granitoids of the Transcaucasian crystalline massif. O.Z. Dudaury, **M.G. Togonidze**, G.T. Vashakidze. Int. scientific petrol. conf. Tbilisi, 1994, Abstracts, p. 2.
24. New data on the isotopic age of the basement rocks. O. Dudaury, **M. Togonidze**. Abstracts of the session dedicated to the 60th anniversary of the Geological Society, 1993.
25. Status and prospects of isotope dating of endogenous ore deposits of Georgia. O.Z. Dudaury, G.T. Vashakidze, **M.G. Togonidze**, N.D. Kantaria, K.E. Janelidze, G.I. Meparishvili, A.A. Mayer. All-Union meeting "Isotope dating of endogenous ore formations". Tbilisi, 1990. Abstracts, pp. 33-35.
26. K-Ar age mesozoic intrusive formations of Georgia (Transcaucasus). O. Dudaury, V. Vinogradov, **M. Togonidze**. Abstracts of V working meeting "Isotopes in Nature". Leipzig, 1989.
27. K-Ar age of Granitoids of the Transcaucasian Median Massif. Dudaury O., **Togonidze M.**, Vashakidze G. Isotope kolloquim Kurreferate, Freiberg, 1988, p. 28.
28. Usage of the computation complex "Iskra-1256" for isotopic studies. O.Z. Dudaury, N.K. Melitauri, G.I. Meparishvili, **M.G. Togonidze**. Abstracts of reports of All-Union Seminar. Zvenigorod, 1983, pp. 28-29.

- 29 K-Ar age of teschenites in Georgia and their connection with volcanism. **M.G. Togonidze**, O.Z. Dudaury. Abstracts of reports of All-Union Meeting. Kiev, 1982, pp. 93-99.
30. Some features of the development of the Middle Jurassic basic magmatism of the Greater Caucasus. O.Z. Dudaury, **M.G. Togonidze**. Abstracts of Reports of the III Reg. Petr. Meeting on the Caucasus, Crimea and the Carpathians. Simferopol –Tbilisi, 1978, pp. 35-36.
31. Aplites and pegmatites of the Gorabi intrusive. **M.G. Togonidze**. Abstracts of Reports of Republic conference of young geol, geoph. and geogr. of Georgia, 1970.
32. Post-Paleozoic magmatism of Abkhazia and its connection with tectonics. O.Z. Dudaury, **M.G. Togonidze**. Abstracts of reports of Scientific Session of Geological Society of GSSR, 1970 (in Georgian).

Scientific grants

1. 2000-2001 - Mineralogy, Geochemistry and Isotope Geochronology of the Dzirula Crystalline Massif Rocks. Georgian Academy of Sciences, Key personnel.
2. 2002-2003 - Main Peculiarities of Development of Middle Jurassic Magmatism in Georgia. Georgian Academy of Sciences, Key personnel.
3. 2004-2005 - Meso-Cenozoic Teschenites of Georgia. Georgian Academy of Sciences, Key personnel.