

Malkhaz Berezhiani

Scientific-technical papers:

141 papers in the fields of Chemical engineering Science, Biofuel Technologies, Alternative/Renewable Energy Sources Development, Chemical Cybernetics, Automation and Electronics. 13 Inventions in the same fields. Some relevant scientific publications are listed below:

1. Ya.N. Tavartkiladze, M.G. Berezhiani – mathematical Modelling of the Process of Batch Crystallization According to the Coalescence Phenomenon. Bulletin of the Academy of Sciences of the Georgian SSR. 115, N5, 1984, pp. 317-320. (Rus)
2. Ya.N. Tavartkiladze, M.K. Eristavi, M.G. Berezhiani – The Method of Prognosis of Duration of Crystallization Process from Solutions. Proceedings of the Academy of Sciences of the Georgian SSR, Chem. Series, 10, N3, 1984, pp. 223-225. (Rus)
3. Berezhiani M.G., Tavartkiladze Ya. N. - Identification of the kinetics of crystallization processes from melts. Theses of the All-Union conference-seminar "Methods of Cybernetics in Chemistry and Chemical Technology", Grozny, 1984, p. 34. (Rus)
4. Berezhiani M.G. - Mathematical modeling of crystallization from melts. Abstracts of the conference "Science-Practice", Tbilisi, "Metsniereba", 1984, pp.138-139: (Rus)
<http://www.mediafire.com/?9x19b252b49nx12>
5. N.Balesiashvili, M.Berezhiani, Ya.Tavartkiladze – Identification of Electro-membrane Processes Kinetics on Base of the Mathematical Model. Proceedings of USSR all-Union Conference «Application of Electrodialysis in membrane-sorption Technology of Purification and Separation of substances, Batumi 1984», Cherkassy, 1984, pp. 98-99. (Rus)
6. M.Berezhiani and others – Modelling of Optimal temperature Regime for the Reversible Chemical Reactions. Proceedings of the Academy of Sciences of Georgia, Chemical Series. 1985, v.11, No 2, pp. 142-145. (Rus)
7. Berezhiani M.G. - Mathematical modeling of kinetics of crystallization of multicomponent systems. Theses of the conference dedicated to the 40th anniversary of the victory in the Great Patriotic War, Academy of Sciences of the Georgian SSR, Tbilisi, "Metzniereba", 1985, p.13: (Rus)
<http://www.mediafire.com/?4c8eyadrc1yjyjj>
8. M.Berezhiani, Ya.Tavartkiladze – Method of Identification of Flow Structures in Devices of a Various Construction. Teor.Osn.Khem.Tekhnol. 1986, v.20, No 2, pp. 272-273. (Rus)
9. M.Berezhiani and others. – The Computing Device for Processing of Response Curves. USSR Inventor's Certificate 1385857, cl. G 06 G 7/18, (Secret),1986, 4p. (Rus)
10. M.Berezhiani and others. – The Computing Device for Objects Image Processing. USSR Inventor's Certificate 1484156, cl. G 06 K 9/36, (Secret), 1987, 8p. (Rus)
11. V.Babakhanov, M.Berezhiani and others. – The Method of Automatic Control of Phases Chemical Conversion in Countercurrent packed Reactor. USSR Inventor's Certificate 1478433, cl. B 01 J 8/02, G 05 D 27/00, (Secret), 1987, 4p. (Rus)
12. Berezhiani M.G., Razmadze Z.Sh. - Mathematical modeling of the temperature field in a tubular reactor. Abstracts of the conference "Science and Technological Progress", Tbilisi, 1986, p.61-62.(Rus)
13. M.Berezhiani, Ya.Tavartkiladze – The Converter of a Complex Impedance. USSR Inventor's Certificate 1385085, cl. G 01 R 27/00, Bulletin No 12, 1988, 3p. (Rus)

14. M.Berezhiani and others. – The Method of Automatic Control of Chemical Reaction Zone Location in Reactor. USSR Inventor's Certificate 1529514, cl. B 01 J 19/00, G 05 D 27/00, (Secret), 1988, 3p.(Rus)
15. M.Berezhiani and others. – The Computing Device for Signals Front Analysis. . USSR Inventor's Certificate 1554641, cl. G 06 G 7/02, (Secret),1988, 5p. (Rus)
16. M.Berezhiani and others. – The Method of Automatic Control of Product Takeoff from Countercurrent Packed Isotopes Separation Column. USSR Inventor's Certificate 1619476, cl. B 01 D 3/42, G 05 D 27/00, (Secret),1988, 4p. (Rus)
17. Babakhanov V.R., Berezhiani M.G., Gvedashvili G.A. - Automated workplace for research of technological processes of separation of stable isotopes in packed columns. Abstracts of the report on VI. meeting on automated control systems "On the progress of the implementation of the SPECTR program", Leningrad, October 26-29, 1988, Moscow: 1988, p.133-134. (Rus)
18. Babakhanov V.R., Berezhiani M.G., Stratiev D.A.- Analog commutator for the automated system of tolerant control of technological parameters. Information sheet on scientific and technical achievements N 88-2299, heading 50.09.41, M .: VIMI, 1988, 2p. (Rus)
19. M.Berezhiani, and others. – The Investigation of a Flow Structure in the Packed Column. Proceedings of the Academy of Sciences of Georgia, Chemical Series. 1989, v.15, No 3, pp. 215-220. (Rus)
20. M.Berezhiani and others. – Method of Calculation of Chemical Reaction Products Fractional Conversion. Proceedings of Georgian Polytechnic Institute «Theoretical and Experimental Investigation in Chemical Engineering», Tbilisi, 1989, No 1 (343), pp. 63-66. (Rus)
21. M.Berezhiani, Ya.Tavartkiladze – Mathematical Modelling of Kinetics of Melt Crystallization Processes. Proceedings of the Academy of Sciences of Georgia, Chemical Series. 1992, v.18, No 2, pp. 138-142. (Rus)
22. M.Berezhiani and others – System for investigation of Solid Materials thermophysical properties. USSR Inventor's Certificate 1793347, cl. G 01 N 25/18, Bulletin No 5, 1993, 4p. (Rus)
23. M.Berezhiani and others – Computer System for Radar Data Acquisition and Processing. Georgian Patent N 293, cl. G 01 S 13/95, Bulletin No 2, 1996, 7p. (Geo)
24. M.Berezhiani, B.Janjgava - Gas flowmeter. Georgian Patent N 400, cl. B 01 F 1/00, Bulletin No 3, 1996, 4p. (Geo)
25. T.Abzianidze, M.Berezhiani and others - Installation for Nitrogen-15 Isotope and Copper Sulfate Co-production. Georgian Patent N 421, cl. B 01 D 59/28, C 01 G 3/10, Bulletin No 9(35), 1998, 5p. (Geo)
26. M.Berezhiani, Ya.Tavartkiladze - Crystals Growth kinetics during countercurrent melt Crystallization process. Proceedings of Georgian Technical University, 1998, No 6(422), p. 30-35. (Rus)
27. Partskhaladze G.Sh., Berezhiani M.G., Chkhaidze B.Sh., Dudaury T.V. – Low-Power Engine Generator Operating on Biogas. Georgian Engineering News, 2002, No 4, pp. 92-96.
28. NATO Science for Peace Program Project SFP 973986: BIOREACTOR, 2003.
29. T. Aladashvili, M. Berezhiani, T. Dudaury, G. Partskhaladze, B. Chkhaidze – Biomass for Fuel Cells: Promising Option for Clean Energy Production. Georgian Engineering News, 2004, No 1, pp. 95-103.
30. T. Aladashvili, M. Berezhiani, B. Chkhaidze, T. Dudaury, M. Orjonikidze, G. Partskhaladze, V. Ugrekhelidze – Fuel Cell Power from Biogas. Georgian Engineering News, 2004, No 4. pp. 57-61.

31. M.Berezhiani, T.Dudaury, N.Kalandadze, G.Partsckhaladze, Ya.Tavartkiladze, V.Ugrekheldidze - Computation of Packed Column for Ethanol Rectification. GEORGIA CHEMICAL JOURNAL, No 5(1), 2005, pp. 60-64. (Rus)
32. M. Berezhiani, D. Patarkalishvili, G. Patarkalishvili, L. Chankvetadze – Production of Paclitaxel from Yew Needles. Georgian Patent N P 3842, 03-07-2005, CI C07D 305/14, Buletin N 1(197), 2006, pp. 13-14. (Geo)
33. Berezhiani M., Chachkhiani M., Dudaury T., Partsckhaladze G., Tsiklauri L., Ugrekheldidze V., Zakariashvili N. – Fermentation of Mechanically Pretreated Cellulostic Wastes with *Pleurotus Ostreatus*. PROCEEDINGS of the Georgian Academy of Sciences, Biological series B. Vol. 3, No. 2, 2005, pp. 33-36.
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36. ISTC Project #G-827: ULTRA HIGH PURITY XENON, 2007.
37. ISTC Project #G-891: WASTELESS BIOTECHNOLOGICAL CYCLE FOR REPROCESSING MUNICIPAL WASTES, 2007.
38. T. Dudaury, M. Chachkhiani, G. Partsckhaladze, G. Tsiklauri, N. Zakariashvili, V. Ugrekheldidze, M. Berezhiani – Method for Production of Hydrogen and Methane by Two-stage Anaerobic Digestion of Biomasses. Georgian Patent N P 4369 , 04-13-2006, CI. C12P 3/00; C01B 3/02; C02F 3/28; C02F 11/04. Buletin N 1(245), 2008, pp. 16-17. (Geo)
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40. A. Turmanidze, M. Berezhiani, V. Servianov, T. Gergedava - Design of Distributed Process Control Systems Based on Programmable Logic Controllers. Proceedings of the International Scientific Conference "ITC'07 - Information Technologies in Control", Tbilisi, 10.10.2007-12.10.2007, Vol. 1, pp. 47-50. (Geo)
41. M. Berezhiani, I. Tavartkiladze – Mathematical Modelling of Chemical and Phase Conversion Processes Macrokinetiks. Proceedings of the International Scientific Conference "ITC'07 - Information Technologies in Control", Tbilisi, 10.10.2007-12.10.2007, Vol. 1, pp. 143-148. (Geo)
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43. T. Dudaury; G. Partsckhaladze; M. Berezhiani; L. Tsiklauri; B.Metreveli; N. Zakariashvili; A. Berezhiani – Perennial Grass –Silphium One of the Prosspective Energy Crops for Georgia. Proceedings of the Academy of Sciences of Georgia, Chemical Series. 2008, v.34, No 2, pp. 187-192. (Geo)
44. M.G. Berezhiani, T.V. Dudaury, N.G. Zakariashvili, B.G. Metreveli, A.M. Berejiani – The Use of Computer Data Asquisition System for Study of Waste Biomass Fermentation Process. Proceedings

- of the International Scientific Conference "IT 2008 - Information Technologies", Tbilisi, 27.06.2008-28.06.2008, pp. 154-157. (Geo)
45. M.G. Berezhiani, M.Ya. Tavartkiladze, A.M. Berejiani – Computer Modelling of Heat Exchange Processes. Proceedings of the International Scientific Conference "IT 2008 - Information Technologies", Tbilisi, 27.06.2008-28.06.2008, pp. 158-161. (Geo)
 46. M. Berezhiani, S. Shalamberidze, A. Berejiani - Mathematical Modelling of Melt Crystallization Kinetics. Proceedings of the International Scientific Conference "Material Science and Manufacturing Technology - MITECH 2009", 25-26 June 2009, Prague, Czech Republic, pp. 20-25.
 47. Genadi Partskhaladze, Tamar Dudaury, Malkhaz Berezhiani, Ana Berezhiani, Besarion Metreveli, Tamar Svanidze - CO₂ BASED FREEZE-EXPLOSION METHOD FOR INCREASING HYDROLYSIS OF CELLULOSE. Proceeding of International Conference TAE2010 "Trends in Agricultural Engineering 2010", Czech University of Life Sciences Prague, 7-10 September, Prague, Czech Republic, 2010, pp. 73-77. Collections of Abstracts, p. 112:
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 48. Dudaury T.B., Chachkhiani M.T., Berezhiani M.G. Partskhaladze G.Sh., Tsiklauri L.N., Ugrehelidze V.D., Zakariashvili N.G., Berejiani A.M. - Cellulosic Materials Processing by Chilling and Mechanical Milling Method. in Book "New Developments in Materials Science", Chapter 17, Series: Materials Science and Technologies, Nova Sciences Publishers Inc., Hauppauge NY, USA, Pub. Date: 2011, ISBN: 978-1-61668-852-3.
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 49. Kvesitadze G., Partskhaladze G., Sadunishvili T., Dudaury T., Chachkhiani M., Berezhiani M., Ugrehelidze V., Tsiklauri G., Metreveli B., Zakariashvili N. - Environmentally friendly biorefinery for reprocessing non-presorted municipal solid wastes with production of energy and organic-mineral fertilizers including recovery of metals. Report on the 7th annual International New Exploratory Technologies Conference "NEXT 2010", Turku, Finland, October 19-21, 2010, 27 p.:
 50. Berezhiani M.G. – Mathematical Modelling of Phase Transition Processes. Articles of International Scientific-Technical Conference "New Technologies in Modern Industry", Tbilisi, Georgian Technical University, April 29-30, 2010, pp. 146-149.
 51. Berezhiani M., Chankvetadze L., Patarkalishvili D., Berejiani A. - Paclitaxel Production from Yew. Proceedings of Conference "Natural and Synthetic Bioactive Compounds", Georgian National Academy of Sciences, Tbilisi, 30.03.2010, pp. 44-45. (Geo)
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 54. Berezhiani M.G., Berejiani A.M., Dudaury T.B., Rukhadze T.K. - COMPUTER-BASED ENGINEERING OF FUEL ETHANOL DISTILLATION. Articles of International Scientific-Technical Conference "New Technologies in Modern Industry", Tbilisi, Georgian Technical University, April 29-30, 2010, pp. 116-118. (Geo)

55. Turmanidze A.G., Bereziani M.G. - Data Acquisition Modules vs. Chart Recorders. Articles of International Conference "Innovative Technologies and Contemporary Materials", Akaki Tsereteli State University, Kutaisi, Georgia, June 17-18, 2010, pp. 451-453. (Geo)
56. Bereziani M. – Simulation of Melt Crystallization Kinetics. International Journal of Material Forming , 2011, No. 4, pp. 421-428; <http://dx.doi.org/10.1007/s12289-010-1016-5> ; <http://www.springerlink.com/content/u55655185h7u3683>
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61. STCU Project #P-416: DEVELOPMENT OF TECHNOLOGY FOR THE PRODUCTION OF HIGH PURITY CRYSTALLINE BORON (LANL T2 215 GE), 2012.
62. L. Kokaia, I. Berdzenishvili, M. Bereziani, A. Aphakidze, D. Kiknadze – Study of Forming and Corrosion Kinetics of Non-Nickel Single-Layer Glass Enamels. Journal of the Georgian Ceramists Association "Ceramics", 2(28). 2012, 1(29). 2013, pp. 141-145.
63. M. Bereziani, S. Shalamberidze – Use of Stable Isotopes in Medicine. Proceedings of II Conference "Natural and Synthetic Bioactive Compounds", Georgian National Academy of Sciences, Tbilisi, November 25-26, 2013, pp. 49-51. (Geo)
64. M. Bereziani, S. Shalamberidze - Experimental and Theoretical Investigation of Melt Crystallization Kinetics in Multicomponent Systems. International Conference "Innovative Technologies in Metallurgy and Materials Science", Tbilisi, Georgian Technical University, July 16-18, 2015, pp. 170-173.
65. M.G. Bereziani, D.G. Kotrikadze - Computer Simulation of Fluid Flow Hydrodynamic Regimes. Publications of International Scientific-Practical Conference "MODERN ENGINEERING TECHNOLOGIES AND ENVIRONMENTAL PROTECTION", Akaki Tsereteli State University, Kutaisi, Georgia, 19-20.05.2016, Part II, pp. 612-615. (Geo)
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