



Associate Professor, Department of
Computer Sciences, Faculty of Exact
& Natural Sciences, Ivane Javakhishvili
Tbilisi State University, Room 354,
University St. 13, Tbilisi 0186,
Georgia
Phone: (+995 32 232 6680) Home,
Mobile: (+995 599 47 46 32),
e-mail: natela.archvadze@tsu.ge

Natela Archvadze

Experience

- 2006-present Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia,
Faculty of Exact and natural Sciences, Department of Computer
Sciences. Associated Professor.
- 2006 – 2008 Niko Muskhelishvili Institute of Computational Mathematics,
Director
- 2004-2006 Ivane Javakhishvili Tbilisi State University, Faculty of Applied
Mathematics and Computer Science, Senior Teacher
- 1982 -2006 Georgian Academy of Science, Niko Muskhelishvili Institute of
Computational Mathematics, Programming Department, Scientific
Researcher

Education

- 2004 Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia, The
scientific-pedagogical title of the Docent by specialization of
05.13.11 Mathematical Support and Software for computers,
Systems, Complex and Networks.
- 1979-1982 Georgia Academy of Science, Post Graduate Course, PhD.
Scientific Degree – Candidate of physical of mathematical Sciences
(Information Technology).
- 1973-1978 Ivane Javakhishvili Tbilisi State University, Faculty of Cybernetics
and Applied Mathematics. Degree – Applied Mathematics

Research Interests

1. Programming languages;
2. Functional programming;
3. Verification of Programs;
4. Synthesis of Programs;

- 5. Parallel Programming;
- 6. Parallel algorithms.

Teaching Courses

Basics of Programming (C/C++); Functional Programming using Haskell, Programming F#, Object Oriented Programming 1 (C++); Programming on C / C ++, Functional Programming, Programming Language Lisp, Informatics Basics, Programming Language Pascal.

Selected Publications

- M. Pkhovelishvili, M.Giorgobiani, N. Archvadze, G. Pkhovelishvili. Modern Forecasting Models in Economy. pp. 219-224. Proceedings of Materials of International Scientific Conference Dedicated to the 95th birth anniversary of Professor George Papava „MODERN TENDENCIES OF DEVELOPMENT OF ECONOMY AND ECONOMIC SCIENCE“. 2018.
http://www.pgie.tsu.ge/contentimage/konferenciebi/2018_konferenciakrebuli.pdf
- N.Archvadze. Imperative Core in Functional Languages (Haskell, F#). Eprints TSU, 2018, <http://eprints.tsu.ge/927/>
- N.Archvadze, M.Pkhovelishvili. Prediction of Events by Means of Data Parallelism. Proceedings of International Conference on Matematics, Informatics and Informtional Technologies (MITI2018). pp.120-121. www.miti2018.usarb.md 2018.
- Natela Archvadze, Merab Pkhovelishvili, Lia Shetsiruli. A New approach to Constructing Parallel Algorithms. Computer Sciences and Telecommunications. 2018 | No.1(53). pp.30-34, 2018. http://gesj.internet-academy.org.ge/en/list_artic_en.php?b_sec=comp
- Арчвадзе Н.Н., Пховелишвили М.Г. Применение параллельных данных для прогнозирования сложных процес. Proceedings of the System Analysis and Information Technologies 20-th International Conference SAIT 2018. pp. 210.
http://sait.kpi.ua/media/filer_public/6e/80/6e804b3f-ae13-4899-b336-4daddbd45584/sait2018ebook.pdf
- Арчвадзе Н.Н., Пховелишвили М.Г., Шецирули Л.Д. Об одном алгоритме параллельной сортировки. Proceedings of the System Analysis and Information Technologies 19-th International Conference SAIT 2017, pp. 244-245. <http://sait.kpi.ua/books/>
- N.Archvadze. A Note on Programming Paradigms. Eprints TSU, 2017. <http://eprints.tsu.ge/925/> pp. 1-10.
- Natela Archvadze, Merab Pkhovelishvili, Lia Shetsiruli, Otari Ioseliani. The modern approaches in parallel programming. Computer Sciences and Telecommunications. 2016 | No.3(41)
- Natela Archvadze, Merab Pkhovelishvili, Lia Shetsiruli, Otari Ioseliani. USAGE OF LOGIC FOR PARALLEL VERIFICATION OF HASKEL

PROGRAMS. Computer Sciences and Telecommunications. 2016 | No.4(42)

- Natela Archvadze, Merab Pkhovelishvili, Lia Shetsiruli, Otari Ioseliani. The algorithm of parallel programming using “small delay”. SCCTW’2016. South-Caucasus Computing and Technology Workshop .<https://indico.cern.ch/event/572800/contributions/2319259/attachments/1347569/2032637/WOR1.pdf> . 2016.
- N.Archvadze. The Automatic Synthesis of the Functional Programming Language Haskell's Programs. <http://eprints.tsu.ge/238/1/N.Archvadze%20Eprints.pdf> . 2016
- N.Archvadze, M.Pkhovelishvili. Several Issues of Parallel Programs Verification for Functional Languages through Kripke Structure. The International Scientific Conference "Information and Computer Technologies, Modelling, Control". Proceedings. ISBN 978-991-20-575-0. pp.545-547. 2015
- Natela Archvadze, Merab Pkhovelishvili, Otari Ioseliani, Lia Shetsiruli . Function Templates for the Synthesis of Functional Programs. International Journal of Computer and Information Technology (ISSN: 2279–0764) Volume 03 – Issue 06, November 2014) <http://www.ijcit.com/Vol3Issue6.php>. Global Impact Factor: 0.687. <http://www.ijcit.com/archives/volume3/issue6/Paper030610.pdf> pp.1241-1244
- Natela Archvadze, Otari Ioseliani, Lia Shetsiruli, Merab Pkhovelishvili. THE AUTOMATIC SYNTHESIS OF HASKELL FUNCTIONS. Computer Sciences and Telecommunications. http://gesj.internet-academy.org.ge/en/title_en.php?b_sec=§ion_1=comp pp.20-26 . 2014
- N. Archvadze, M.Pkhovelishvili Reforming the Trees – C# and F# Comparison. Proceedings of the IV International Conference on “Problems of Cybernetics and Informatics” (PCI'2012). ISBN 978-9952-434-39-2, ISBN 978-1-4673-4501-9. pp. 93-96. 2012. www.pci2012.science.az/1/00.pdf
- N.Archvadze, M.Pkhovelishvili. POSSIBILITY OF FUNCTIONAL PROGRAMS VERIFICATION THROUGH APPLICATION OF MODEL CHECKING. Electronic Scientific Journal: “Computer Sciences and Telecommunications”. http://gesj.internet-academy.org.ge/en/title_en.php?b_sec=§ion_1=comp ISSN 1512-1232. pp.51-58. 2013

Tutorials:

1. N.Archvadze. Functional Programming using Haskell. 366 p. Tbilisi Staty University, http://press.tsu.ge/data/image_db_innova/Haskell-Dak.pdf 2018.

2. N.Archvadze, L.Shetsiruli. Programming language C++. Fundamentals of programming. Shota Rustaveli State University. Batumi, 2009, 129 pp. ISBN 978-9991-409-41-7. (ge)
3. I.Khutsishvili, T.Davitashvili, N.Archvadze, A.Chitaladze, K.Gelashvili. Programming language C. Tbilisi Staty University. 2009. pp.219. ISBN 978-9941-13-104-2.(ge)
4. N.Archvadze, L.Shetsiruli. Programming language LISP. Tbilisi. “Universal”. ISBN 978-9941-12-258-3. 143 p, 2008. (ge)

Participation in Conferences:

- Modern Forecasting Models in Economy. International Scientific Conference Dedicated to the 95th birth anniversary of Professor George Papava „MODERN TENDENCIES OF DEVELOPMENT OF ECONOMY AND ECONOMIC SCIENCE“. 6-7 July, 2018.Tbilisi, Georgia. http://www.pgie.tsu.ge/contentimage/konferenciebi/2018_konferenciakrebuli.pdf
- Prediction of Events by Means of Data Parallelism. International Conference on Mathematics, Informatics and Information Technologies (MITI2018). 18 – 22 April, 2018. Chisinau, Moldova. <http://miti2018.usarb.md/>
- Об одном алгоритме параллельной сортировки. Proceedings of the System Analysis and Information Technologies 19-th International Conference SAIT 2017. 22-25 May, 2017. Kiev, Ukraine, <http://sait.kpi.ua/en/2017>
- Morphological Analysis of Words on Clusters (ru) Прикладная лингвистика в науке и образовании. Saint Petersburg, Russia. 27 ноября 2017 <https://sites.google.com/site/prikladnaalingvistika2014/sborniki-trudov-konferencii>
- Особенности параллельного программирования на языке Haskell. Proceedings of the System Analysis and Information Technologies 18-th International Conference SAIT 2016. Kiev, Ukraine, May 30 – June 2, 2016. <http://sait.kpi.ua/en/2016>
- The algorithm of parallel programming using “small delay. SCCTW’2016 South-Caucasus Computing and Technology Workshop. 4 Oct 2016- 7 Oct 2016. Tbilisi, Georgia. <https://indico.cern.ch/event/572800/>
- Function Definitions with Accumulators in Functional Languages. The System Analysis and Information Technologies 16-th International

Conference SAIT 2014, Kiev, Ukraine 29–31 May 2014,
<http://sait.kpi.ua/en/2014>.

- Questions of Database Interfaces in the Georgian language VII International Biannual Conference
International Biannual Conference “APPLIED LINGUISTICS IN RESEARCH AND EDUCATION”. 10 – 12 April, 2014. Saint Petersburg, Russia.
- Model Checking for Functional Programs. Международная научно-практическая интернет-конференция “Современные тенденции развития математики и её прикладные аспекты». 21 May 2013. Donetsk, Ukraine. <http://donduet.edu.ua/ru/konf/details/168-mizhnarodna-naukovo-praktichna-internet-konferentsija-suchasni-tendentsiyi-rozvitku-matematiki-ta-yiyi-prikladni-aspekti--2013.html>
- Solution planning problems using Model Checking. The System Analysis and Information Technologies 15-th International Conference SAIT 2013. 29–31 May 2013, Kiev, Ukraine . <http://sait.kpi.ua/books/>
- Reforming the Trees – C# and F# COMPARISON. IV International Conference “Problems of Cybernetics and Informatics" (PCI'2012). September 12-14, 2012, Baku, Azerbaijan.
- Haskell - Analizator of Recursive Functions. III International Conference of the Georgian Mathematical Union. September 2 – 9, 2012. Batumi, Georgia.
http://rmi.ge/~gmu/III_Annual_Conference/geo/confprogram/Conference2012.pdf
- The complexity of program synthesis from examples. Pattern Recognition and Information Processing (PRIP'2011). The Eleventh International Conference. 18-20 May, 2011. Minsk, Belarus. <http://lsi.bas-net.by/conferences/prip2011/>
- Universal attitude to the program verification. 5th International Conference on Application of Information and Communication Technologies (AICT-2011) . 12-14 October, 2011. Baku, Azerbaijan. <http://aict.info/2011/>

Honors and awards:

Medal of Honor for his contribution to the students' educational process (Georgia, Presidential Decree N1603, 24 December, 2002)

ACM (Association for Computing Machinery) Professional Membership.
ACM Membership No.: 5302311, Order No.: 11436351. 03. 2018.