**CURRICULUM VITAE**

1. **Personal Information**

Name: Adıgüzel (Adıgözal)

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Near East University, Nicosia, TRNC

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1. **Work Experience**

**Prof.Dr.** Near East University, Department of Mathematics (01.09.2015- present time)

**Prof.Dr.** Eastern Mediterranean University, Department of Mathematics (27.09.2007- 31.07.2015)

**Assoc. Prof.** Eastern Mediterranean University, Department of Mathematics (09.03. 1994-27.09.2007)

**Assist. Prof.** Eastern Mediterranean University, Department of Mathematics (01.02.1994-09.03. 1994)

**Assoc. Prof.** Baku State University, Department of Mathematics (1982-1994)

**Assist. Prof.** Baku State University, Department of Mathematics (1978-1982)

**Visiting Researcher**- Manchester University, Department of Numerical Analysis (04.09.1981- 04.08.1982)

**Visiting Researcher**: Faculty of Computational Mathematics and Cybernetics, Moscow State University (01.09.1989- 01.02.1990, 01.02.1987- 01.06. 1987, 01.09.1985- 01.02.1986)

**Junior Research Follow –** Institute of Cybrnetics Academy of Sciences of Azerbaijan (1974-1978)

1. **Education**

Doctor Nauk (D.Sc) in mathematics, N. Muskhelishvili Institute of Computing Mathematics , Georgian Academy of Sciences, Tbilisi, 1999

Kandidat Nauk (Ph.D.) in mathematics, Baku State University, 1974

Master’s degree in mathematics, Baku State University, 1970

BS in mathematics, Department of Mathematics, Baku State University, 1965-1970

1. **Memberships**

AMS- The American Mathematical Sosiety,

AzMS- The Azerbaijan Mathematical Sosiety

1. **Languages spoken:**

English, Russian, Turkish

1. **Research Areas**

Finite-difference methods, finite-element methods, domain-decomposition methods, numerical solutions of partial and ordinary differential equations, singularity problems, nonlocal problems, numerical linear algebra.

1. **Publications ( Dosiev=Dosiyev)**

**Submitted Papers**

* E. A. Volkov and **Adiguzel A. Dosiyev,** On the solution of a multilevel nonlocal problem, Submitted to **Mediterranean Journal of Mathematics**  2015 **(SCIE)**
* **Adiguzel A. Dosiyev** and Emine Celiker, The block-hexagonal grid method for the solution of the mixed boundary value problem of Laplace’s equation on staircase polygons, Submitted to **Applied Mathematics and Computation,** Elsevier, 2015  **(SCIE)**

**Published Papers inside of the SCI and SCIE list**

1. **Adiguzel A. Dosiyev** and Emine Celiker, A fourth order Block-Hexagonal Grid approximation for the solution of Laplace’s equation with sigularities, **Advances in Difference Equations, (**2015) 2015:59 DOI 10.1186/s13662-015-0407-9. **(SCIE)**
2. **Adiguzel A. Dosiyev** and Hamid M.M. Sadeghi, A fourth order approximation of the first and pure second derivatives of the Laplace equation on a rectangle,  **Advances in Difference Equations,** (2015) 2015:67 DOI 10.1186/s13662-015-0408-8. **(SCIE)**
3. **Adiguzel A. Dosiyev** and Emine Celiker, Approximation on the hexagonal grid of the Dirichlet problem for Laplace’s equation**, Boundary Value Problems** 2014 (1), (2014):73. **(SCIE)**
4. **A.A. Dosiyev,** S.C. Buranay, One-block method for computing the generalized stress intensity factors for Laplace’s equation on a square with a slit and on an L-shaped domain, **Journal of Computational and Applied Mathematics** 289 (2015) 400-411. **(SCI)**
5. **A.A. Dosiyev,** The block-grid method for the approximationof the pure second order derivatives for the solution of Laplace’s equation on a staircase polygon, **Journal of Computational and Applied Mathematics** 259 (2014) 14-23. **(SCI)**
6. E.A. Volkov, **A.A. Dosiyev,** S.C. Buranay, On the solution of a nonlocal problem**, Computers and Mathematics with Applications** 66 (2014) 330-338**. (SCI)**
7. **Dosiyev A.A.,** Buranay Cival S, A fourth order block-grid method for solving Laplace’s equation on a staircase polygon with boundary functions in **,** Special Issue “Well-Posed and Ill-Posed Boundary Value Problems for PDE 2013” in Abstract and Applied Analysis, Volume 2013, Article ID : 864865, 11 pages, <http://dx>.doi.org/10.1155/2013/864865**. (SCIE)**
8. **A.A. Dosiyev,** S.C. Buranay, D. Subasi, The highly accurate block-grid method in solving Laplace’s equation for nonanalytic boundary condition with corner singularity, **Computers and Mathematics with Applications**, Vol. 64 ( 2012) 616-632 **. (SCI)**
9. E.A. Volkov,  **A.A. Dosiyev,** A highly accurate homogeneous scheme for solving the Laplace equation on a rectangular parallelepiped with boundary values in **, Comput. Math. Math. Phys. Vol.**52, No. 6 (2012) 879-886. (SCIE)
10. **Dosiyev, Adiguzel A.,** New properties of 9-point finite difference solution of the Laplace equation, **Mediterranean Journal of Mathematics,** Vol. 8, Issue 3 (2011) 451-462. **(SCIE)**
11. **Dosiyev A.A**., Mazhar Zeka, Buranay Cival, S, Block method for problems on L-shaped domains, **Journal of Computational and Applied Mathematics**, Vol. **235** ( 2010) 805-816, DOI : 10.1016 /j.cam.2010.07.007**. (SCI)**
12. **Dosiyev A.A**., Buranay Cival S., Subasi D, The block-grid method for solving Laplace’s equation on polygons with nonanalytic boundary conditions, **Boundary Value Problems** ( 2010), 22 pages, DOI : 10.1155 /2010/468594. **(SCIE)**
13. **Dosiyev A.A.,** Buranay Cival, S. , On the order of maximum error of the finite difference solutions to Laplace’s equation on rectangles. ***ANZIAM J*.** 51 ( 2009), Issue:1, pp. 141, DOI: 10.1017/S1446181109000327. **(SCIE)**
14. **Dosiyev A.A.,** Buranay Cival, S., On solving the cracked beam problem by a block method, **Communications in Numerical Methods in Engineering*,*** 24 ( 2008)  1277-1289**. (SCIE)**
15. **Dosiyev, A.A**., Buranay Cival, S., On the order of maximum error of the finite difference solutions of Laplace’s equation on rectangles, ***ANZIAM J*.** 50, Issue:1 ( 2008) 59-73, DOI: 10.1017/S1446181108000151**. (SCIE)**
16. Volkov E.A., **Dosiyev A.A.**, A high accurate composite grid method for solving Laplace’s boundary value problems with singulariries**, Russ. J.Numer. Anal. Math. Modelling,** 22, No.3, (2007) 291-307. **(SCIE)**
17. **Dosiyev A.A.,** The High Accurate Block-Grid Method for Solving Laplace’s Boundary Value Problem with Singularities, **SIAM Journal on Numerical Analysis,** Vol. 42, No.1 (2004)153-178**. (SCI)**
18. E.A. Volkov, **A.A. Dosiyev**, M. Bozer, A High Accuracy Composite Grids Method**, Doklady Mathematics**, Vol.69, No.3( 2004) 391-393. **(SCI)**
19. **A.A. Dosiyev,**  A Fourth-Order Accurate Composite Grid Method for Solving Laplace’s Boundary Value Problems with Singularities, **Comput.Math. and Math Physics**, Vol. 42, No. 6 (2002) 867-884**. (SCIE)**
20. **A.A. Dosiyev.** A Block-Grid Method of Increased Accuracy for Solving Dirichlet’s Problem for Laplace’s Equation on Polygons,  **Comput.Math. and Math. Physics**, Vol. 34, No. 5 (1994) 591-604. **(SCIE)**
21. **A.A. Dosiev.** A Block-Grid Method of Increased Accuracy for the Solution of the Laplace Equation on Polygons, **Doklady Mathematics** Vol. 45, No.2 (1992) 396-399. **(SCI)**
22. **A.A. Dosiev** and Ja. D. Mamedov. Application of the grid method to the solution of a mixed boundary value problem for elliptic equation in the presence of singularities, **Demonstratio Math.** Vol.12 (1979) 875-888 **(SCIE)**
23. **A.A. Dosiev** and Ja. D. Mamedov. On the Solution by the grid method of a mixed boundary-value problem for nonlinear elliptic equations, **Soviet Math. Dokl.** Vol. 19, No. 5 (1978) 1186-1190**. (SCI)**

**Publications (Dosiev=Dosiyev) Outside of the SCI list**

1. **A.A. Dosiyev** , S.Cival. A combined method for solving Laplace’s boundary value problem with singularities, **International Journal Pure and Applied Mathematics**, Vol. 21, No. 3(2005) 353-367.
2. **A.A. Dosiyev**. On the Maximum Error in the Solution of Laplace Equation by Finite Difference Method**, International Journal of Pure and Applied Mathematics**, Vol. 7, No. 2 (2003) 229-241.
3. **A.A. Dosiyev.** An approximate method of solving Dirichlet’s problem for Laplace’s equation with boundary singularities , **Approximate Solution of Operator Equations** , Baku State University, 1991, pp. 34-38
4. **A.A. Dosiyev** and B.B. Balakishiyev. On investigation of the net method in solving of the non local boundary value problems with singularities, **Approximate Solution of Operator Equations** , Baku State University, 1991, pp. 64-67.
5. **A.A. Dosiyev** and B.S. Ashirov. On the numerical solution multi-point problems the second order ODE with singular coefficients. **Approximate Solution of Operator Equations** , Baku State University, 1991, pp. 41-46.
6. **A.A. Dosiyev.** On the singularities of the problems with the oblique derivatives. **Numerical Methods of Analyses**, Azerb. Gos. Univ., 1988, pp. 33-39.
7. **A.A. Dosiyev**. On the error estimation for the grid method in solving elliptic equations with boundary conditions containing the oblique derivatives, **Approximate Solution of Operator Equations** , Azerb. Gos. Univ., 1986, pp. 45-50.
8. **A.A. Dosiyev** and H.G. Bahishova. On the grid method for the mixed problems with the oblique derivatives, **Approximate Solution of Operator Equations,** Azerb. Gos. Univ., 1985, pp. 57-63.
9. **A.A. Dosiyev**. On the numerical solution of the boundary problems for an equation of mixed type, **Approximate Solution of Operator Equations** , Azerb. Gos. Univ., 1985, pp. 49-56
10. I.A. Gurbanov and **A.A. Dosiyev**. On the numerical solution of the boundary problems for the quasilinear elliptic equations, **Approximate Solution of Operator Equations** , Azerb. Gos. Univ., 1983, pp. 64-74
11. **A.A. Dosiyev**. On the solution of a singular problem by the finite element method, **Approximate Solution of Operator Equations**, Azerb. Gos. Univ. 1983, pp. 45-54
12. **A.A. Dosiyev**. On the solution by the method of nets of a problem with an oblique derivative for elliptic equations with mixed derivatives, **Problems of optimization and ACS**, Azerb. Gos. Univ. , 1983, pp. 66-73
13. D.N. Gafarov and **A.A. Dosiev** . Some Remarks on the Tricomi Problem for an Equation of Mixed Type**, Izv.Akad. Nauk Azebbaijan SSR**. Ser. Fiz.-Tekhn.Mat.Nauk No.1, 1980, pp. 108-114
14. **A.A. Dosiev** and I. Byashimov. On the net method in solving Drichlet’s problem for elliptic equations with singular coefficients**, Manuscript No.1976-80, deposited at VINITI, Moscow, 1980, 46 p.**
15. **A.A. Dosiev**. On the difference in solving a mixed boundary value problem for qusili elliptic equation and some boundary problems for the equation of mixed type, **Manuscript No. 1308-77, deposited at VINITI, Moscow, 1977, 52 p.**
16. **A.A. Dosiev.** On the Numerical Solution of a Mixed boundary Value Problem for Elliptic Equations**, Izv.Akad. Nauk Azebbaijan SSR**. Ser. Fiz.-Tekhn.Mat.Nauk No.6, 1976, pp. 3-8
17. **A.A. Dosiev**. On the numerical solution of a boundary value problem for an equation of mixed type with two perpendicular lines of degeneracy, **Questions of mathematical cybernetics and applied mathematics,** No. 2, 1976, pp. 76-81.
18. **A.A. Dosiev**. The existence of solutions of certain boundary value problems for a mixed type equation with perpendicular lines of degeneracy, **Scientific Notes, Azerb. Gos. Univ., 1974, No. 1 Voprosy Prikl. Mat. I Kibernet.**, pp. 41-48
19. **A.A. Dosiev**. Solution of a boundary value problem for an equation of mixed type with two perpendicular lines of degeneracy by the mesh method, **Scientific Notes, Azerb. Gos. Univ., 1973, Voprosy Prikl. Mat. i Kibernet.**, pp. 76-82.

**Chapter in a book**

1. **Dosiyev, A.A**., Buranay Cival, S.: A fourth order accurate difference-analytical method for solving Laplace’s boundary value problem with singularities, **In “Mathematical Methods in Engineering”,** Ed. K.Tas, J.A.T. Machado, D. Baleanu**, Springer, 2007, pp.167-176.**
2. **Dosiyev, A.A.,** Cival, S.: A difference-analytical method for solving Laplace’s boundary value problems with singularities, **In “2004-Dynamical Systems and Applications”,** Ed. H. Akca, A. Boucherif, and V. Covachev, **GBS Publishers & Distributors, India, (2004), pp.339-360.**

**Publications in Refereed Proceedings**

1. **A.A. Dosiyev,** A fourth order accurate difference solution of a multipoint nonlocal problem for the Laplace equation, **Proceedings of the 14-th International Conference of Computational and Mathematical Methods in Science and Engineering, CMMS 2014, Spain,(2014) Vol.2, 5p.**
2. **Dosiyev, A.A.,** Buranay Cival, S. : On solving the cracked beam problem by a block method, **5th GRACM International Congress on Computational Mechanics Limasol, Cyprus, Proceedings., 2, 29 June-1 July (2005), pp. 887-893**
3. **A.A. Dosiyev**. A High Accuracy Difference-Analytical Method for Solving Laplace’s Boundary Value Problem with Singularities**, Proceedings of the International Conference on Computational Mathematics, Novosibirsk, 2002, pp. 402-407**
4. **A.A. Dosiyev** and A.Y. Aliev On the approximate method in solving a non local problem for the Laplace equation**, Proceedings of the International Conference on “Current problems of fundamental sciences “, Moscow, MGTY, 1991, Vol.2, pp. 115-117**
5. **A.A. Dosiev** and V.S. Mamiyev. The grid method for - problem, Proceedings of young scientists of Institute of Cybernetics Academy of Sciences of Azerbaijan, **deposited at VINITI, No. 3121-79, Moscow, 1979, pp. 52-57.**
6. **International Conference Presentations**
7. **A. A. Dosiyev** and Emine Çeliker, A fourth order approximation for the solution of Laplace’s equation with singularities, **3rd International Eurasian conference on mathematical sciences and applications**, 25-28 August 2014, Austria.
8. **A. A. Dosiyev** and Emine Çeliker**,** Matching operator for the approximate solution on the hexagonal grid of the Dirichlet boundary value problem for Laplace’s equation on a rectangle, **International conference on applied analysis and mathematical modeling,** 2-5 June 2013, Turkey.
9. **A. A. Dosiyev.** The block-grid method for the approximation of the derivatives for the solution of Laplace’s equation on a polygon, **International Congress of Computational and Applied Mathematics,** July 09-13, 2012, Ghent, Belgium.
10. **A. A. Dosiyev.** Block-grid method for solving the Laplace equation on polygons, **Conference on Numerical Methods and Computational Mechanics in Science and Engineering,** July 15-19, 1996, University of Miskolc, Miskolc, Hungary.
11. **Dosiyev, A.A.**, Buranay Cival, S. : A high accurate difference-analytical method for solving Laplace’s equation on polygons with nonanalytic boundary conditions, **Abstract of 14th International Congress on Computational and Applied Mathematics (ICCAM2009),** Antalya Turkey, 29 September-02 October 2009.
12. **Dosiyev, A.A.,** Mazhar Z., Buranay Cival, S.: Block Method for problems on L-Shaped domains, **International Conference on Mathematical Analysis, Differential Equations and their Applications,** Book of Abstracts, Famagusta, North Cyprus, September 12-15, 2008.
13. **Dosiyev, A.A.,** Buranay Cival, S. : On solving the cracked beam problem by a block method. **Abstract of 5th GRACM International Congress on Computational Mechanics** Limasol, Cyprus, 29 June-1 July 2005.
14. **Dosiyev, A.A.,** Cival S. : An effective realization of the high accurate Block-Grid method in solving Laplace’s equation on polygons. **Book of abstracts of “International Conference on Mathematical Modelling and Scientific Computing”**, page 9, April 2-6 2001.
15. **Dosiyev, A.A.,** Cival S., : Domain Decomposition Method for a Nonsmooth Solutions of the Laplace Equation, **Tenth International Conference on Domain Decomposition Methods,** Conference Program and Book of Abstracts, Boulder, Colorado, USA. August 10-14, (1997).
16. **Courses Taught**

Math 151-Calculus 1

Math 152-Calculus 2

Math 106-Linear Algebra

Math 203-Ordinary Differential Equations

Math 241-Differential Equations and Linear Algebra

Math 337- Theory of Partial Differential Equations

Math 236-Complex Analysis

Math 252-Mathematical Methods for Engineers

Math 373-Numerical Analysis for Engineers

Math 413-Numerical Analysis 2

Math 572-Advanced Numerical Analysis (Graduate Course)

Math 573-Numerical Solution of Elliptic Boundary Value Problem(Graduate Course)

Math 578-Theory of Finite Difference Schemes (Graduate Course)

Math 580-Block Method for the Solution of Laplace’s Equation (Graduate Course)

1. **Ph.D Students Supervised**
2. Hamid Mir-Mohammad Sadeghi

Thesis Title: A Highly Accuracte Approximation of the Derivatives of the Laplace Equation

Thesis in progress.

Qualifying exam has been passed and one paper has been published.

1. Sajedeh Norozpour

Thesis title: Bitsadze-Samarskii nonlocal problems for elliptic equations

Thesis in progress.

Courses will be completed this semester.

Will take the qualifying exam at the end of the fall semester, 2015/2016.

1. Lawrence Adedayo Farinola

Thesis Title: Block-grid method for the solution of Laplace’s equation on the domain with piecewise smooth boundary.

Courses will be completed in the fall semester 2015/2016.

1. Emine Çeliker

Thesis Title: The block-hexagonal grid method for Laplace’s equation with singularities

Ph.D completed in December 2014, EMU.

1. Suzan Cival Buranay

Thesis Title: Block-grid method for solving Laplace’s boundary value problem on polygons

Ph.D completed in September, 2007, EMU.

1. Mehmet Bozer

Thesis Title: The high accurate composite grids method fo solving Laplace’s boundary value problem with singularities

Ph. D completed in May, 2004, EMU.

1. Alemdar Hasanov

Thesis Title: Finite-difference method for the solution of nonlocal boundary value problem of elliptic type equations with singular coefficients

Ph.D completed in 1992, Institute of Cybernetics, Academy of Sciences of Azerbaijan, Baku.

1. Aydin Aliyev

Thesis Title: The numerical solution of nonlocal boundary value problems for elliptic equations.

Ph.D completed in 1992, Institute of Cybernetics, Academy of Sciences of Azerbaijan, Baku.

1. Bayram Ashirov

Thesis Title: Numerical solution of the nonlocal boundary value problem for ordinary differential equations with singular coefficients.

Ph.D completed in 1991, Institute of Cybernetics, Academy of Sciences of Azerbaijan, Baku.

1. Ishankuli Byashimov

Thesis Title: Numerical solution of the boundary value problem for elliptic equations with singular coefficients

Ph.D completed in 1981, Kazan State University, Kazan.

1. **RESEARCH PROJECTS**

T.C. / KKTC BİLİMSEL ARAŞTIRMA PROJELERİ (BAP-1)

ÜNİVERSİTELERE AİT ARAŞTIRMA PROJESİ (B TÜRÜ ARAŞTIRMA PROJESİ) (2.1.1.02)

Project Start : 1 January 2010

Finish : 1 January 2011

**Project Title :** Analitik Olmayan Sınır Koşullu Laplace Denkleminin Tekilliği Bulunan Çözümleri için Blok-Izgara (Block-Grid) Yöntemi

**Director of the project** : Prof. Dr. A. A. Dosiyev

**Reasearchers** : Dr. Suzan Cival Buranay, Assoc. Prof. Dr. Dervis Subasi

**References*:***

1. **E.A. Volkov, Steklov Mathematical Institute, Russian Academy of Sciences, Moskow, Russia. E-mail:** [**svetik.romanova@gmail.com**](mailto:svetik.romanova@gmail.com)
2. **Valery Pavlovich Il’in**

**Syberian Brunch Russian Academy of Sciences, Head Lab**

**Inst. Computational Math. & Math. Geophys.**

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1. **Bülent Karasözen**

**Middle East Technical University**

**Inst. Appl. Math. Ankara,Turkey** [**bulent@metu.edu.tr**](mailto:bulent@metu.edu.tr)

1. **Professor Allaberen Ashyralyev**

**Mathematics Department**

**Fatih University, Istanbul Turkey.**[**aashyr@fatih.edu.tr**](mailto:aashyr@fatih.edu.tr)

1. **Sergey Khrushchev,**

**International School of Economics**

**Kazakh-British Technical University**

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