

# ARZU COŞKUN

## DOÇ. DR.

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### Öğrenim Bilgisi

Post Doktora  
2012 - 2012

The University of Leeds, Birleşik Krallık

Doktora  
2005 - 2010

Kocaeli Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, Türkiye

### Yabancı Diller

İngilizce, B2 Orta Üstü

### Akademik Unvanlar / Görevler

Yrd. Doç. Dr.  
2012 - 2012

University of Leeds, Mathematics And Physical Sciences, Applied Mathematics

Yrd. Doç. Dr.  
2011 - 2012

Kocaeli Üniversitesi, Fen Edebiyat Fakültesi, Matematik

Uzman  
2003 - 2011

Kocaeli Üniversitesi, Fen Edebiyat Fakültesi, Matematik

### SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- An Inverse Problem in Estimating the Time Dependent Source Term and Initial Temperature Simultaneously by the Polynomial Regression and Conjugate Gradient Method**  
Coskun A.  
FILOMAT, cilt.34, sa.10, ss.3507-3516, 2020 (SCI-Expanded)
- The Use of Soft Matrices on Soft Multisets and their Applications in Optimal Decision Process**  
Coskun A., Aras Ç., Sonmez A.  
FILOMAT, cilt.32, sa.3, ss.1055-1067, 2018 (SCI-Expanded)

3. **A numerical method based on the polynomial regression for the inverse diffusion problem**  
Erdem A.  
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, cilt.92, sa.9, ss.1883-1894, 2015 (SCI-Expanded)
4. **A simultaneous approach to inverse source problem by Green's function**  
Erdem A.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, cilt.38, sa.7, ss.1393-1404, 2015 (SCI-Expanded)
5. **Simultaneous reconstruction of the source term and the surface heat transfer coefficient**  
Kaya M., Erdem A.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, cilt.38, sa.3, ss.517-526, 2015 (SCI-Expanded)
6. **An adaptive algorithm for determination of source terms in a linear parabolic problem**  
Erdem A.  
JOURNAL OF INVERSE AND ILL-POSED PROBLEMS, cilt.22, sa.4, ss.569-592, 2014 (SCI-Expanded)
7. **Identification of a spacewise dependent heat source**  
ERDEM A., Lesnic D., Hasanov A.  
APPLIED MATHEMATICAL MODELLING, cilt.37, sa.24, ss.10231-10244, 2013 (SCI-Expanded)
8. **Stability for determining the principal coefficient of parabolic equation**  
Demir A., Erdem A.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.219, sa.8, ss.3826-3830, 2012 (SCI-Expanded)
9. **Comparative analysis of inverse coefficient problems for parabolic equations. Part I: adjoint problem approach**  
Hasanov A., Pektas B., Erdem A.  
INVERSE PROBLEMS IN SCIENCE AND ENGINEERING, cilt.19, sa.5, ss.599-615, 2011 (SCI-Expanded)
10. **5th International Conference Inverse Problems: Modeling and Simulation**  
Hasanoglu A., Pektaş B., ERDEM A.  
Journal of Inverse and Ill-Posed Problems, cilt.17, sa.6, ss.631-637, 2009 (SCI-Expanded)
11. **Determination of unknown coefficient in a non-linear elliptic problem related to the elastoplastic torsion of a bar**  
HASANOV A., Erdem A.  
IMA JOURNAL OF APPLIED MATHEMATICS, cilt.73, sa.4, ss.579-591, 2008 (SCI-Expanded)
12. **Relationship between current response and time in ion transport problem including diffusion and convection. 2. Numerical approach**  
HASANOGLU S., Erdem A.  
JOURNAL OF MATHEMATICAL CHEMISTRY, cilt.43, sa.4, ss.1458-1469, 2008 (SCI-Expanded)
13. **The Fourth International Conference Inverse Problems: Modeling and Simulatino**  
Hasanoglu A. H., ERDEM A.  
Journal of Inverse and Ill-Posed Problems, cilt.15, sa.6, ss.641-643, 2007 (SCI-Expanded)
14. **Monotonicity of input-output mappings in inverse coefficient and source problems for parabolic equations**  
HASANOV A., Demir A., Erdem A.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, cilt.335, sa.2, ss.1434-1451, 2007 (SCI-Expanded)
15. **The method of lines for the numerical solution of a mathematical model for capillary formation: The role of endothelial cells in the capillary**  
Pamuk S., ERDEM A.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.186, sa.1, ss.831-835, 2007 (SCI-Expanded)
16. **The method of lines for the numerical solution of a mathematical model for capillary formation: The role of tumor angiogenic factor in the extra-cellular matrix**  
ERDEM A., Pamuk S.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.186, sa.1, ss.891-897, 2007 (SCI-Expanded)

## Diğer Dergilerde Yayınlanan Makaleler

- 1. A NOTE ON BIPOLAR SOFT SUPRA TOPOLOGICAL SPACES**  
Coşkun A.  
JOURNAL OF THE KOREAN SOCIETY OF MATHEMATICAL EDUCATION SERIES B-PURE AND APPLIED MATHEMATICS, cilt.30, sa.4, ss.357-375, 2023 (ESCI)
- 2. A NOTE ON BIPOLAR SOFT SUPRA TOPOLOGICAL SPACES**  
GÜNDÜZ Ç., Bayramov S., ERDEM A.  
JOURNAL OF THE KOREAN SOCIETY OF MATHEMATICAL EDUCATION SERIES B-PURE AND APPLIED MATHEMATICS, cilt.30, sa.4, ss.357-375, 2023 (ESCI)
- 3. DETERMINATION OF A COEFFICIENT IN A SECOND-ORDER HYPERBOLIC PROBLEM**  
Erdem A.  
Journal of Mathematical Analysis, cilt.11, sa.2, ss.102-112, 2020 (ESCI)
- 4. ON THE EXISTENCE AND UNIQUENESS OF SOLUTIONS FOR A FIRST AND SECOND-ORDER DISCRETE BOUNDARY VALUE PROBLEM**  
ERDEM A., DEMİR A.  
Journal of Mathematical Analysis, cilt.11, sa.2, 2020 (ESCI)
- 5. DETERMINATION OF A COEFFICIENT IN A SECOND-ORDER HYPERBOLIC PROBLEM**  
Coskun A.  
JOURNAL OF MATHEMATICAL ANALYSIS, cilt.11, sa.2, ss.102-112, 2020 (ESCI)
- 6. ON THE EXISTENCE AND UNIQUENESS OF SOLUTIONS FOR A FIRST AND SECOND-ORDER DISCRETE BOUNDARY VALUE PROBLEM**  
Coskun A., Demir A.  
JOURNAL OF MATHEMATICAL ANALYSIS, cilt.11, sa.2, ss.86-101, 2020 (ESCI)
- 7. Comparative Analysis of the Modified SOR and BGC Methods Applied to the Poleness Conservative Finite Difference Scheme**  
ERDEM A.  
EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS, cilt.6, ss.30-43, 2013 (ESCI)
- 8. Iteratively regularized gradient method for determination of source terms in a linear parabolic problem**  
ERDEM A.  
American Journal of Computational and Applied Mathematics, cilt.3, ss.13-22, 2013 (Hakemsiz Dergi)

## Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- 1. Part I. A probabilistic soft set approach to decision making problems**  
Coşkun A.  
3RD ICAENS 2022, Konya, Türkiye, 20 Temmuz 2022, ss.745
- 2. Part 2. A probabilistic soft multiset approach to group decision making problems**  
Coşkun A.  
3rd International Conference on Applied Engineering and Natural Sciences, Konya, Türkiye, 20 Temmuz 2022, ss.849
- 3. AN INVERSE PROBLEM WITH THE NONLOCAL DIRICHLET BOUNDARY CONDITION**  
Coşkun A.  
1st INTERNATIONAL LOTFI A.ZADEH CONFERENCE: FUZZY LOGIC AND APPLICATIONS, Baku, Azerbaycan, 20 Aralık 2021, ss.62
- 4. ON A PROBABILISTIC SOFT MULTISSET AND ITS APPLICATION IN MATRIX**  
Coşkun A.  
1st INTERNATIONAL LOTFI A.ZADEH CONFERENCE: FUZZY LOGIC AND APPLICATIONS, Baku, Azerbaycan, 20 Aralık 2021, ss.61

5. **MEDICAL DIAGNOSIS PROBLEM BY USING NEUTROSOPHIC SOFT SET**  
Coşkun A.  
1st INTERNATIONAL LOTFI A.ZADEH CONFERENCE: FUZZY LOGIC AND APPLICATIONS, Baku, Azerbaijan, 20 - 21 Aralık 2021, ss.16-17
6. **The determination of the right hand side in a semilinear heat conduction problem with the nonlocal Dirichlet boundary condition**  
ERDEM A.  
the 3 international conference of operators in general morrey type spaces and applications, 16 - 20 Temmuz 2019
7. **Fuzzy soft expert set**  
ERDEM A., GÜNDÜZ Ç.  
2nd International Conference on Life and Engineering Sciences, 27 - 29 Haziran 2019
8. **A decision making problem by using neutrosophic soft set**  
ERDEM A., GÜNDÜZ Ç.  
2nd International Conference on Life and Engineering Sciences, 27 - 29 Haziran 2019
9. **Determination of a coefficient in a second-order hyperbolic problem**  
ERDEM A.  
5ThINTERNATIONAL CONFERENCE ON RECENT ADVANCES IN PURE AND APPLIEDMATHEMATICS (ICRAPAM 2018), 23 - 27 Temmuz 2018
10. **On The Existence And Uniqueness Of Solutions For A First And Second-Order Discrete Boundary ValueProblem**  
ERDEM A., DEMİR A.  
5Th INTERNATIONAL CONFERENCE ON RECENTADVANCES IN PURE AND APPLIED MATHEMATICS (ICRAPAM 2018), 23 - 27 Temmuz 2018
11. **Soft matrices on soft multisets in an optimal decision process**  
Coskun A., Aras C. G., Cakalli H., Sonmez A.  
3rd International Conference on Analysis and Applied Mathematics (ICAAM), Almaty, Kazakistan, 7 - 10 Eylül 2016, cilt.1759
12. **Probabilistic Soft MultiSet Theory**  
ERDEM A., TÜRKMEN G.  
International MathematicsSymposium, International Mathematics Symposium, 11 - 13 Temmuz 2014
13. **Experimental study for characterization of time dependent source term and initial temperature**  
ERDEM A.  
The 7th International Conference "Inverse Problems: Modeling and Simulation, 26 - 31 Mayıs 2014
14. **On the Existence and Uniqueness of Solutions for Discrete Boundary Value Problems**  
ERDEM A., DEMİR A.  
Nonlinear Phenomena in Complex System, II International Seminar Nonlinear PhenomenologyAdvances, 1 - 05 Ekim 2013
15. **A simultaneous approach to inverse source problem by Green'xxs function**  
ERDEM A.  
Algerian-Turkish International Days on Mathematics 2013, 12 - 14 Eylül 2013
16. **Soft Path Connectedness on Soft Topological Spaces**  
BAYRAMOV S., GÜNDÜZ Ç., ERDEM A.  
Proceedings of the 13th International Conference on Computational and Mathematical Methods in Science andEngineering, 24 - 27 Temmuz 2013
17. **A numerical method based on the polynomial regression for the inverse diffusion problem**  
ERDEM A.  
Proceedings of the 13th International Conference on Computational and Mathematical Methods in Science andEngineering, 24 - 27 Temmuz 2013
18. **Comparative numerical analysis of coarse-fine mesh and gradient methods ininverse coefficient problems for parabolic equations**  
ERDEM A., HASANOV A., PEKTAŞ B.

- The Fifth International Conference "Inverse Problems: Modeling and Simulation", 24 - 29 Mayıs 2010
19. **Reconstruction algorithms for parabolic coefficient identification problems based on adjoint approach**  
ERDEM A.  
The Fifth International Conference Algorithmic Analysis of Unstable Problems, 2 Haziran - 06 Eylül 2008
20. **Numerical analysis of ill-posedness of parabolic coefficient identification problems based on adjoint problem approach**  
ERDEM A., HASANOV A., PEKTAŞ B.  
The Fifth International Conference Algorithmic Analysis of Unstable Problems, 2 - 06 Eylül 2008
21. **Monotonicity of input-output mappings and Lipschitz continuity of related auxiliary functionals in inverse coefficient problems**  
ERDEM A., HASANOV A.  
The Fifth International Conference Algorithmic Analysis of Unstable Problems, Rusya, 2 - 06 Eylül 2008
22. **Monotonicity of input-output mappings and Frechet differentiability and Lipschitz continuity of related auxiliary functionals in inverse problems for parabolic equations**  
ERDEM A., HASANOV A.  
The Fourth Int. Conference "Inverse Problems: Modeling and Simulation", 26 - 31 Mayıs 2008
23. **An adjoint problem approach for coefficient identification in a linear hyperbolic problem**  
ERDEM A.  
The ISAAC (International Society for Analysis, its Applications and Computation), 13 - 18 Ağustos 2007
24. **An analysis of the cost functional for parabolic inverse source problem**  
ERDEM A.  
Proceedings of The International Conference on Modeling and Simulation, 28 - 30 Ağustos 2006
25. **Differentiability and Lipschitz property of the cost function related to parabolic optimal control problems**  
ERDEM A.  
Pioneers Of Bulgarian Mathematics, 8 - 10 Temmuz 2006
26. **An analysis of the adjoint problem approach for parabolic inverse source problem with measured Dirichlet data**  
ERDEM A.  
The Third International Conference "Inverse Problems: Modeling and Simulation", 29 Mayıs - 02 Haziran 2006

## Verdiği Dersler

- Matematik I, Lisans, 2023 - 2024  
Diferansiyel Denklemler, Lisans, 2023 - 2024  
Uygulamalı Sayısal Yöntemler I, Yüksek Lisans, 2023 - 2024  
Matematik II, Lisans, 2022 - 2023  
Bilgisayar Programlama, Lisans, 2022 - 2023  
MATLAB, Lisans, 2023 - 2024  
Matematik I, Lisans, 2018 - 2019  
Diferansiyel Denklemler, Lisans, 2018 - 2019  
Lineer Cebir, Lisans, 2013 - 2014  
Olasılık ve İstatistik, Lisans, 2013 - 2014  
Bilgisayar Programlama, Lisans, 2013 - 2014  
Lineer Operatörler, Yüksek Lisans, 2012 - 2013  
Sayısal Analiz, Lisans, 2012 - 2013  
Uygulamalı Sayısal Yöntemler II, Yüksek Lisans, 2012 - 2013  
Kısmi Türevli Diferansiyel Denklemlerin Seçmeli Bölümleri, Doktora, 2011 - 2012  
Ters Problemler, Yüksek Lisans, 2010 - 2011

Fortran, Lisans, 2010 - 2011

## Metrikler

Yayın: 50

Atıf (WoS): 132

Atıf (Scopus): 129

H-İndeks (WoS): 7

H-İndeks (Scopus): 7

## Araştırma Alanları

Matematik, Fark Denklemleri ve Fonksiyonel Denklemler, Sayısal Analiz, Temel Bilimler

## Akademi Dışı Deneyim

University of Leeds

Kocaeli Üniversitesi

Kocaeli Üniversitesi