

# ARZU COŞKUN

## ASSOC. PROF.

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Address : Kocaeli Üniversitesi, Umuttepe Kampüsü, Fen-Edebiyat Dekanlık

International Researcher IDs

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ORCID: 0000-0003-4284-356X

Publons / Web Of Science ResearcherID: AAD-3916-2020

ScopusID: 16041878000

Yoksis Researcher ID: 108368

### Learning Knowledge

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Post Doctorate

2012 - 2012

The University of Leeds, United Kingdom

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Doctorate

2005 - 2010

Kocaeli University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey

### Foreign Languages

English, B2 Upper Intermediate

### Academic Titles / Tasks

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Assistant Professor

2012 - 2012

University of Leeds, Mathematics And Physical Sciences, Applied Mathematics

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Assistant Professor

2011 - 2012

Kocaeli University, Fen Edebiyat Fakültesi, Matematik

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Expert

2003 - 2011

Kocaeli University, Fen Edebiyat Fakültesi, Matematik

### Published journal articles indexed by SCI, SSCI, and AHCI

- 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, vol.34, no.10, pp.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, vol.32, no.3, pp.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, vol.92, no.9, pp.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, vol.38, no.7, pp.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, vol.38, no.3, pp.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, vol.22, no.4, pp.569-592, 2014 (SCI-Expanded)
7. **Identification of a spacewise dependent heat source**  
ERDEM A., Lesnic D., Hasanov A.  
APPLIED MATHEMATICAL MODELLING, vol.37, no.24, pp.10231-10244, 2013 (SCI-Expanded)
8. **Stability for determining the principal coefficient of parabolic equation**  
Demir A., Erdem A.  
APPLIED MATHEMATICS AND COMPUTATION, vol.219, no.8, pp.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, vol.19, no.5, pp.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, vol.17, no.6, pp.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, vol.73, no.4, pp.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, vol.43, no.4, pp.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, vol.15, no.6, pp.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, vol.335, no.2, pp.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, vol.186, no.1, pp.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, vol.186, no.1, pp.891-897, 2007 (SCI-Expanded)

## Articles Published in Other Journals

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, vol.30, no.4, pp.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, vol.30, no.4, pp.357-375, 2023 (ESCI)
3. **DETERMINATION OF A COEFFICIENT IN A SECOND-ORDER HYPERBOLIC PROBLEM**  
Erdem A.  
Journal of Mathematical Analysis, vol.11, no.2, pp.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, vol.11, no.2, 2020 (ESCI)
5. **DETERMINATION OF A COEFFICIENT IN A SECOND-ORDER HYPERBOLIC PROBLEM**  
Coskun A.  
JOURNAL OF MATHEMATICAL ANALYSIS, vol.11, no.2, pp.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, vol.11, no.2, pp.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, vol.6, pp.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, vol.3, pp.13-22, 2013 (Non Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

1. **Part I. A probabilistic soft set approach to decision making problems**  
Coşkun A.  
3RD ICAENS 2022, Konya, Turkey, 20 July 2022, pp.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, Turkey, 20 July 2022, pp.849
3. **AN INVERSE PROBLEM WITH THE NONLOCAL DIRICHLET BOUNDARY CONDITION**  
Coşkun A.  
1st INTERNATIONAL LOTFI AZADEH CONFERENCE: FUZZY LOGIC AND APPLICATIONS, Baku, Azerbaijan, 20 December 2021, pp.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, Azerbaijan, 20 December 2021, pp.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 December 2021, pp.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 July 2019
7. **Fuzzy soft expert set**  
ERDEM A., GÜNDÜZ Ç.  
2nd International Conference on Life and Engineering Sciences, 27 - 29 June 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 June 2019
9. **Determination of a coefficient in a second-order hyperbolic problem**  
ERDEM A.  
5ThINTERNATIONAL CONFERENCE ON RECENT ADVANCES IN PURE AND APPLIED MATHEMATICS (ICRAPAM 2018), 23 - 27 July 2018
10. **On The Existence And Uniqueness Of Solutions For A First And Second-Order Discrete Boundary Value Problem**  
ERDEM A., DEMİR A.  
5Th INTERNATIONAL CONFERENCE ON RECENT ADVANCES IN PURE AND APPLIED MATHEMATICS (ICRAPAM 2018), 23 - 27 July 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, Kazakhstan, 7 - 10 September 2016, vol.1759
12. **Probabilistic Soft MultiSet Theory**  
ERDEM A., TÜRKMEN G.  
International Mathematics Symposium, International Mathematics Symposium, 11 - 13 July 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 May 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 Phenomenology Advances, 1 - 05 October 2013
15. **A simultaneous approach to inverse source problem by Green's function**  
ERDEM A.  
Algerian-Turkish International Days on Mathematics 2013, 12 - 14 September 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 and Engineering, 24 - 27 July 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 and Engineering, 24 - 27 July 2013
18. **Comparative numerical analysis of coarse-fine mesh and gradient methods in inverse coefficient problems for parabolic equations**  
ERDEM A., HASANOV A., PEKTAŞ B.  
The Fifth International Conference "Inverse Problems: Modeling and Simulation", 24 - 29 May 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 June - 06 September 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 September 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, Russia, 2 - 06 September 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 May 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 August 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 August 2006
25. **Differentiability and Lipschitz property of the cost function related to parabolic optimal control problems**  
ERDEM A.  
Pioneers Of Bulgarian Mathematics, 8 - 10 July 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 May - 02 June 2006

## Courses

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

## Metrics

Publication: 50

Citation (WoS): 132

Citation (Scopus): 129

H-Index (WoS): 7

H-Index (Scopus): 7

## Research Areas

Mathematics, Functional Equations, Numerical Analysis, Natural Sciences

## Non Academic Experience

University of Leeds

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