

PERSONAL
INFORMATION

Research Assistant Dr.
Department of Mathematics, Middle East Technical
University, Ankara, Turkey
E-mail: arsinem@metu.edu.tr

RESEARCH
INTERESTS

Numerical Analysis, Numerical Solutions of Partial Differential Equations, Magnetohydrodynamic flow

EDUCATION

Middle East Technical University, Ankara, Turkey September 2018 – June 2025
Ph.D., Department of Mathematics (GPA 4.0/4.0)

Middle East Technical University, Ankara, Turkey September 2016 – June 2018
M.S., Department of Mathematics (GPA 3.93/4.0)

Dokuz Eylül University, İzmir, Turkey September 2011 – June 2016
B.S., Department of Mathematics (GPA 3.97/4.0)

EMPLOYMENT

Research Assistant at Department of Mathematics,
Middle East Technical University, Ankara, Turkey October 2017-present

AWARDS AND
SCHOLARSHIPS

Turkish Scientific and Technical Research Council (TÜBİTAK), Ankara, Turkey

- 2211-A Doctorate Scholarship Program September 2018-September 2022
- 2224-A Travel Scholarship for Scientific Meetings August 2019

Graduation Awards from Dokuz Eylül University

- Ranked first among Faculty of Arts and Sciences and Department of Mathematics graduates of the bachelors degree programs in the 2015-2016 academic year

Credit and Dormitories Institution (KYK), Ankara, Turkey

- Undergraduate Scholarship December 2011-June 2016

Scuola Matematica Interuniversitaria (SMI), Perugia, Italy

- Summer School Scholarship July 2015-August 2015

LANGUAGE SKILLS Turkish (native), English(fluent)

COMPUTER SKILLS Matlab, L^AT_EX, Wolfram Mathematica, MS Office (Excel, Word)

PUBLICATIONS **Journal Articles Published (Q1 or Q2 articles)**

- Arslan S., Tezer-Sezgin M., "Exact and FDM solutions of 1D MHD flow between parallel electrically conducting and slipping plates", *Advances in Computational Mathematics*, 2019, <https://doi.org/10.1007/s10444-019-09669-x>.
- Arslan S., Tezer-Sezgin M., "Convergence, stability and numerical solution of unsteady free convection MHD flow between two slipping plates", *Mathematical Methods in the Applied Sciences*, 2021, <https://doi.org/10.1002/ma.7755>

- Arslan Ölçer S., Tezer-Sezgin M., "DRBEM solution of singularly perturbed coupled MHD flow equations", *Engineering Analysis with Boundary Elements*, 2023, <https://doi.org/10.1016/j.enganabound.2023.06.038>

Conference Proceedings (Refereed) Published

- Arslan Ölçer S., Tezer-Sezgin M., "DRBEM solutions of singularly perturbed MHD flow in a square duct with variably conducting and no-slip/slipping walls", 6th International Conference on Mathematical Advances and Applications, Conference Proceedings of Science and Technology, 6(1), 2023, 198-204.
- Arslan Ölçer S., Tezer-Sezgin M., "DRBEM solutions of regularly perturbed MHD flow in a rectangular duct with no-slip and insulated/conducting walls", *AIP Conference Proceedings*, 11th International Conference on Mathematical Modeling in Physical Sciences (IC-MSQUARE) 2022, AIP Conf. Proc. 2872, 120076 (2023), <https://doi.org/10.1063/5.0163039>
- Arslan S., Tezer-Sezgin M., "Fdm solution of mhd flow in a rectangular duct with slipping and partly insulated partly conducting side walls", *Journal of Physics: Conference Series*, 8th International Conference on Mathematical Modeling in Physical Sciences (IC-MSQUARE) 2019, <https://doi.org/10.1088/1742-6596/1391/1/012081>.

Chapter in a Book

- Arslan S., Tezer-Sezgin M., *Finite Difference Solutions of 2D Magnetohydrodynamic Channel Flow in a Rectangular Duct*, Numerical Mathematics and Advanced Applications ENUMATH 2019, European Conference, Egmond aan Zee, The Netherlands, September 30 - October 4, Springer International Publishing, Series volume 139, pp. 63-71, DOI:10.1007/978-3-030-55874-1, ISSN: 1439-7358, <https://www.springer.com/gp/book/9783030558734>.

SCIENTIFIC MEETINGS

- *DRBEM solution of Regularly Perturbed Simplified MHD flow problem for small Hartmann numbers*, İzmir Mathematics Days, September, 11-12, 2025, Ege University, İzmir, TURKEY.
- *DRBEM Solution of Singularly Perturbed Magnetohydrodynamic Duct Flow using Parallel Computing*, I.Workshop on Applied Mathematics and Statistics, May 10, 2025, İzmir University of Economics, İzmir, TURKEY.
- *DRBEM solutions of singularly perturbed MHD flow in a square duct with variably conducting and no-slip/slipping walls*, 6th International HYBRID Conference on Mathematical Advances and Applications, May, 10-13, 2023 Yildiz Technical University, Istanbul, TURKEY.
- *DRBEM Solutions of Regularly Perturbed MHD Flow in a Rectangular Duct with no-slip and insulated/conducting Walls*, 11th International Conference on Mathematical Modeling in Physical Science (IC-MSQUARE), Virtual, On-line Conference, 5-8 September, 2022.
- *Finite Difference Solutions of 2D Magnetohydrodynamic Channel Flow in a Rectangular Duct*, European Numerical Mathematics and Advanced Applications Conference (ENUMATH), Egmond aan Zee, The Netherlands, 30th September-4th October, 2019.
- *Fdm solution of mhd flow in a rectangular duct with slipping and partly insulated partly conducting side walls*, 8th International Conference on Mathematical Modeling in Physical Science (IC-MSQUARE), Bratislava, Slovakia, 26-29 August, 2019.
- *Finite Difference Solutions of 1D Magnetohydrodynamics (MHD) Channel Flow with Slipping and Electrically Conducting Walls*, European Seminar on Computing (ESCO), Pilsen, Czech Republic, June 3-8, 2018.

TEACHING
EXPERIENCE

Middle East Technical University, Ankara, Turkey
Teaching Assistant

- MATH 213 Calculus III
- MATH 113 Calculus I
- MATH 120 Calculus of Functions of Several Variables
- MATH 119 Calculus with Analytic Geometry
- MATH 126 Basic Mathematics II
- MATH 125 Basic Mathematics I