

CURRICULUM VITAE

Prof. Dr. Teoman ÖZER

İstanbul Technical University, Faculty of Civil Engineering

Department of Civil Engineering, Division of Mechanics

No: 362, 34469 Maslak, İstanbul, Turkey

E-mail: tozer@itu.edu.tr

Tel: +90 212 285 37 80

Fax: +90 212 285 65 87

Education

- Postdoctoral: University of Minnesota, School of Mathematics, U.S.A., 2004.
- Postdoctoral: Massachusetts Institute of Technology, Department of Mechanical Engineering, U.S.A., 2000-2003.
- Ph.D.: Istanbul Technical University, Institute of Science and Technology, Turkey, 1994-1999.
- M.Sc.: Marmara University, Institute of Social Sciences, Division of Economic Theory, Istanbul, Turkey, 1995-1997.
- M.Sc.: Istanbul Technical University, Institute of Science and Technology, Turkey, 1991-1994.
- B.Sc.: Yıldız University, Faculty of Engineering, Department of Civil Engineering, Istanbul, Turkey, 1987-1991.

Ph.D. Thesis: Symmetry Group Properties of Equations of Nonlocal Elasticity.

Professional experience

- Professor, Istanbul Technical University, Faculty of Civil Engineering, Division of Mechanics, (2010).
- Associate Professor, Istanbul Technical University, Faculty of Civil Engineering, Division of Mechanics, (2006).

- Visiting Scientist, University of Minnesota, IMA (*Institute for Mathematics and its Applications*) Summer School, U.S.A., (2006).
- Associate Professor (title), Istanbul Technical University, Faculty of Civil Engineering, Division of Mechanics, (2005).
- Assistant Professor, Istanbul Technical University, Faculty of Civil Engineering, Division of Mechanics, (2005).
- Instructor, Massachusetts Institute of Technology, Department of Mechanical Engineering, (2001).
- Visiting Scientist, Carnegie Mellon University, Department of Mathematical Sciences, CNA (*Center for Nonlinear Analysis*) Summer School, U.S.A., (2001).
- Research and Teaching Assistant, Istanbul Technical University, Faculty of Civil Engineering, Division of Mechanics, (1994-1999) and (2003-2005).

Research interests

- Theory of Lie Groups and Its Applications to Differential Equations.
- Continuum Mechanics.
- Applied Mechanics and Mathematics.
- Mathematical Physics.
- Conservation Laws.
- Web-based Education Modules.
- Information Technology.

Teaching interests

- Statics.
- Strength of Materials I.
- Strength of Materials II.
- Dynamics.
- Partial Differential Equations.
- Engineering Mathematics.
- Theory of Elasticity.
- Differential Equations.

Awards and Honors

- The best paper award, XIII. National Conference of Mechanics, Gaziantep, Turkey, 2003.
- Postdoctoral fellowship, Istanbul Technical University, Turkey, 2000.
- Postdoctoral fellowship, NATO-TUBITAK (The Scientific and Technological Research Council of Turkey), 1999.

Referee

- Mechanics Research Communications.
- International Journal of Engineering Science.
- Journal of Computational and Applied Mathematics.
- International Journal of Non-Linear Mechanics.
- Applied Mathematics and Computation.
- Carpathian Journal of Mathematics.
- Journal of the Franklin Institute.
- International Journal of Engineering Education.
- Selçuk Journal of Applied Mathematics.
- Nonlinear Analysis: Real World Applications.
- Journal of Applied Mathematics.
- Journal of Mass Communication & Journalism.
- Computational Methods in Engineering Science & Mechanics.
- Zeitschrift fuer Naturforschung A – Physical Sciences.
- Mathematical Problems in Engineering.
- Applied Mathematical Modelling.
- Abstract and Applied Analysis.
- Computational and Applied Mathematics.
- Mathematical Reviews (American Mathematical Society).
- Journal of King Saud University (Science).

Academic service

- Chairman of ACE 2014 (11th International Congress on Advances in Civil Engineering), 2014.

- Member of Editorial Board, The Scientific World Journal: Geometry, 2013 -
- Reviewer for Scientific and Technological Research Council of Turkey, (TÜBİTAK), 2013.
- Member of Editorial Board, The Scientific World Journal: Mathematical Analysis, 2013 -
- Member of Central Board of ITU Structure and Earthquake Research Center (UYG-AR), 2013-
- Member of Faculty Board of Faculty of Civil Engineering, Istanbul Technical University, 2012 - 2014.
- Head of Department of Civil Engineering, Faculty of Civil Engineering, Istanbul Technical University, 2012 – 2014.
- Elected Member of Faculty Board of Faculty of Civil Engineering, Istanbul Technical University, 2012.
- Lead Guest Editor for a Special Issue of Abstract and Applied Analysis (AAA), 2012-2013.
- Lead Guest Editor for a Special Issue of Advances in Mathematical Physics (AMP), 2011-2012.
- Reviewer for Georgian Rustaveli National Science Foundation (RNSF), 2011, 2012, 2013.
- Reviewer for South Africa's National Research Foundation (NRF), 2010.
- Member of Editorial Board, International Journal of Engineering and Applied Sciences (IJEAS), 2009 -
- Erasmus Program Coordinator of Civil Engineering Department, Istanbul Technical University, 2008-2012.
- Elected Member, Turkey National Committee on Theoretical and Applied Mechanics, 2007-

Memberships

- IACSIT (*International Association of Computer Science and Information Technology*), 2014-
- SIAM (*Society for Industrial and Applied Mathematics*), 2013-

Mc.S. students

- Derya Şahin, *Lie group analysis of gravity currents*, İstanbul Technical University, Institute of Science and Technology, 2007.

Ph.D. students

- Emrullah Yaşar, *Local and noloccal conservation laws of evolution equations*, Uludağ University, Institute of Science and Technology, 2009.
- Farshad Rezvan, *Lie symmetry groups and their applications in partial differential equations*, Tabriz University, Faculty of Mathematical Sciences, Iran, 2010.

Projects

- 2001-2003, I-Campus Project (MIT-Microsoft Project), Researcher, Massachusetts Institute of Technology, U.S.A.
- 2006, Research Project, Principal Investigator, İstanbul Technical University.
- 2014, Research Project, Principal Investigator, İstanbul Technical University.

Journal publications

1. T. Özer, 2014 (with G. Gün Polat and Ö. Orhan), On new conservation laws of fin equation, ***Advances in Mathematical Physics*** (To appear).
2. T. Özer, 2014 (with G. Gün Polat), On conservation forms and invariant solutions for classical mechanics problems of Lienard-type, ***Advances in Mathematical Physics*** (To appear).
3. T. Özer, 2013 (with A. F. Cheviakov, S. Weichen, N. Migranov, T. R. Sekhar, and E. Yaşar), *Editorial*, Advances in Lie Groups and Applications in Applied Sciences, ***Abstract and Applied Analysis***.
4. T. Özer, 2013 (with G. Gün Polat), First integrals, integrating factors and invariant solutions of the path equation based on Noether and Lambda-symmetries, ***Abstract and Applied Analysis***.
5. T. Özer, 2013 (with Ö. Orhan and G. Gün Polat), On symmetry group classification of fin equation, ***Journal of Inequalities and Applications***, 147.
6. T. Özer, 2012 (with V. B. Taranov, R. G. Smirnov, T. Klemas, P. Thamburaja, S. Wijesinghe, and B. Polat), *Editorial*, Recent Advances in Analytical Methods in Mathematical Physics, ***Advances in Mathematical Physics***.

7. T. Özer, 2011 (with F. Rezvan and E. Yasar), Group properties and conservation laws for nonlocal shallow water wave equation, ***Applied Mathematics and Computation***, 218, 974-979.
8. T. Özer, 2011 (with E. Yasar), On symmetries, conservations laws and similarity solutions of foam drainage equation, ***International Journal of Non-Linear Mechanics***, 46, 357-362.
9. T. Özer, 2011 (with E. Yasar), Application of the composite variation principle to shallow water equations, ***Nonlinear Science and Complexity***, 73-78.
10. T. Özer, 2010 (with D. Sahin), Theoretical-group analysis of the inviscid gravity currents, ***Journal of Interdisciplinary Mathematics***, 13, 355-376.
11. T. Özer, 2010 (with E. Yasar), On the conservation laws and traveling wave solutions to the BBM equation, ***Journal of Interdisciplinary Mathematics***, 13, 77-86.
12. T. Özer, 2010 (with F. Rezvan), Invariant solutions of integro-differential Vlasov-Maxwell equations in Lagrangian variables by Lie group analysis, ***Computers & Mathematics with Applications***, 59, 3412-3437.
13. T. Özer, 2010 (with E. Yasar), Invariant solutions and conservation laws to nonconservative FP equation, ***Computers & Mathematics with Applications***, 59, 3203-3210.
14. T. Özer, 2010 (with E. Yasar), Conservation laws for one-layer shallow water wave systems, ***Nonlinear Analysis: Real World Applications***, 11 (2), 838-848.
15. T. Özer, 2010 (with D. Sahin and N. Antar), Lie group analysis of gravity currents, ***Nonlinear Analysis: Real World Applications***, 11 (2), 978-994.
16. T. Özer, 2009, New traveling wave solutions to AKNS and SKdV Equations, ***Chaos, Solitons & Fractals***, 42, 577–583.
17. T. Özer, 2009, The Lie algebra of point symmetries of nonlocal collisionless Boltzmann equation in terms of moments, ***Chaos, Solitons & Fractals***, 40, 793-802.
18. T. Özer, 2009, New exact solutions to CDF equations, ***Chaos, Solitons & Fractals***, 39, 1371–1385.
19. T. Özer, 2008, Symmetry group analysis and similarity solutions of variant nonlinear long –wave equations, ***Chaos, Solitons & Fractals***, 33, 722-730.

20. T. Özer, 2008, An application of symmetry groups to nonlocal continuum mechanics, ***Computers & Mathematics with Applications***, 55, 1923-1942.
21. T. Özer, 2008 (with N. Antar), The similarity forms and invariant solutions of two-layer shallow-water equations, ***Nonlinear Analysis: Real World Applications***, 9 (3), 791-810.
22. T. Özer, 2007, The group-theoretical analysis of nonlocal Benney equation, ***Reports on Mathematical Physics***, 60 (1), 13-37.
23. T. Özer, 2005, Symmetry group analysis of Benney system and an application for the shallow-water equations, ***Mechanics Research Communications***, 2 (3), 241-254.
24. T. Özer, 2005 (with S. S. Akhiev), Symmetry groups of the equations with nonlocal structure and an application for the collisionless Boltzmann equation, ***International Journal of Engineering Science***, 43(1-2), 121-137.
25. T. Özer, 2004 (with E. G. Cravalho), On developments in interactive web-based learning modules in a thermal-fluids engineering course: Part II, ***International Journal of Engineering Education***, 20(5), 849-860.
26. T. Özer, 2004, On symmetry group properties and general similarity forms of the Benney equations in the Lagrangian variables, ***Journal of Computational and Applied Mathematics***, 169(2), 297-313.
27. T. Özer, 2003, Symmetry group classification for two-dimensional elastodynamics problems in nonlocal elasticity, ***International Journal of Engineering Science***, 41(18), 2193-2211.
28. T. Özer, 2003, Symmetry group classification for one-dimensional elastodynamics problems in nonlocal elasticity, ***Mechanics Research Communications***, 30(6), 539-546.
29. T. Özer, 2003, Solutions of Navier equations of classical elasticity using Lie symmetry groups, ***Mechanics Research Communications***, 30(2), 193-201.
30. T. Özer, 2003 (with M. Kenworthy, J. G. Brisson, E. G. Cravalho and G. H. McKinley), On developments in interactive web-based learning modules in a thermal-fluids engineering course, ***International Journal of Engineering Education***, 19(2), 305-315.
31. T. Özer, 2000, Solution of the Boussinesq problem using Lie symmetries, ***Mathematical and Computational Applications***, 5(1), 1-11.

32. T. Özer, 1999, On the symmetry group properties of equations of nonlocal elasticity, *Mechanics Research Communications*, 26(6), 725-733.

Conferences

- T. Özer, 2014 (with Ö. Orhan), On Analysis of Mathews-Lakshmanan Oscillator Equation via Nonlocal Transformation and Lagrangian-Hamiltonian Description, *International Congress in Honour of Professor Ravi P. Agarwal*, June 23-26, Bursa-Turkey.
- T. Özer, 2014 (with G. Gün Polat), New Lagrangian Forms of Modified Emden Equation by Jacobi Method, *International Congress in Honour of Professor Ravi P. Agarwal*, June 23-26, Bursa-Turkey.
- T. Özer, 2014 (with G. Gün Polat), Linearization with Sundman and nonlocal transformations for quadratic Lienard type equation, (*SDEA-II*), *Symmetries, Differential Equations and Applications*, 27-30 January, Islamabad, Pakistan.
- T. Özer, 2013 (with Ö. Orhan and G. Gün Polat), On λ -symmetry classification and conservations laws of differential equations, *SIAM Conference on Analysis of Partial Differential Equations (PD13)*, 7-11 December, Orlando, U.S.A.
- T. Özer, 2013 (with Ö. Orhan), λ -symmetry classification and integrating factors of Fin equation. *International Conference on Applied Analysis and Mathematical Modelling (ICAAMM2013)*, 2-5 June, İstanbul, Turkey
- T. Özer, 2013 (with G. Gün Polat), Comparison of symmetries based on different approaches for Fin problem. *International Conference on Applied Analysis and Mathematical Modelling (ICAAMM2013)*, 2-5 June, İstanbul, Turkey
- T. Özer, 2012 (with Ö. Orhan, G. Gün Polat and Y. A. Altundag), On symmetry group classifications of Fin equation. *International Congress in Honour of Professor H. M. Srivastava*, 23-26 August, Bursa, Turkey
- T. Özer, 2010 (with F. Rezvan and E. Yasar), Group properties and conservation laws for nonlocal shallow water wave equation. *International Congress in Honour of Professor H. M. Srivastava on his 70th Birth Anniversary*, 18-21 August, Bursa, Turkey.
- T. Özer, 2009 (with E. Yasar), Lie group analysis and conservation laws to the foam drainage equation. *XVI. National Conference of Mechanics*, 22-26 June, Kayseri, Turkey.

- T. Özer, 2009 (with F. Rezvan), Symmetries of integro-differential equation for a plasma physics problem, ***International Conference on Differential and Integro-Differential Equations, MOGRAN-13***, 18-22 June, Ufa, Russia.
- T. Özer, 2008 (with D. Sahin), Lie group analysis of the inviscid gravity currents, ***Pre-ICM International Convention on Mathematical Sciences***, 18-20 December, Delhi, India.
- T. Özer, 2008 (with E. Yasar), Conservation laws, potential symmetries and invariant solution for non-conservative one dimensional Fokker-Planck equation, ***20th International Congress of Jangjeon Mathematical Society***, 21-23 August, Bursa, Turkey
- T. Özer, 2008 (with E. Yasar), Application of the composite variational principle to shallow-water equations. ***II. Conference on Nonlinear Science and Complexity***, 28-31 July, Porto, Portugal.
- T. Özer, 2007 (with D. Sahin and N. Antar), Symmetry group properties and similarity solutions of gravity currents. ***XV. National Conference of Mechanics***, Isparta, Turkey, 3-7 September, pp. 683-690.
- T. Özer, 2006 (with E. Hızal and N. C. Turgay), On the symmetries and symmetry reductions of Benjamin-Bona-Mahony equation, ***XIX. National Mathematics Conference***, 22-25 August, Kütahya, Turkey.
- T. Özer, 2005 (with N. Antar), Symmetry group properties of two-layer shallow-water equations, ***XIV. National Conference of Mechanics***, Antakya, Turkey, 12-16 September, pp. 671-679.
- T. Özer, 2004, On symmetry group properties of the Benney equations, ***Fifth International Conference on Symmetry in Nonlinear Mathematical Physics***, National Academy of Sciences of Ukraine, Institute of Mathematics, Kiev, Ukraine, 21-28 June, pp. 214-219.
- T. Özer, 2004 (with S. S. Akhieiev), A direct method for investigation of symmetry groups of integro-differential equations, ***XIII. National Conference of Mechanics***, Gaziantep, Turkey, 8-12 September, pp. 71-79.
- T. Özer, 1999, Calculation of Boussinesq problem using Lie symmetries, ***International Conference on Differential Equations, EQUADIFF 99***, 1-7 August, Berlin, Germany.

- T. Özer, 1999, On the symmetry groups of the two-dimensional elastodynamics problem of nonlocal elasticity, **Second International Symposium on Mathematical and Computational Applications**, September 1-3, Baku, Azerbaijan.
- T. Özer, 1999, Solution of the two-dimensional elastodynamics problem using Lie symmetries, **XI. National Conference of Mechanics**, 6-10 September, Bolu, Turkey.

Seminars and invited talks

- New conserved forms of some problems in Mechanics, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2012 (with G. Gün).
- A general discussion on the engineering education in Turkey, **Uludağ University**, Faculty of Engineering and Architecture, Bursa, 2009.
- Similarity solutions of gravity currents, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2009 (with D. Sahin).
- Conservation laws for some partial differential equations, Workshop on Mathematical Methods in Applied Sciences, **Uludağ University**, Bursa, 2008 (with E. Yasar).
- Nonlocal equations and symmetry group applications in mechanics, Workshop on Mathematical Methods in Applied Sciences, **Uludağ University**, Bursa, 2008.
- Conservation laws for evolution equations, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2008 (with E. Yasar).
- Symmetries and Nonlocal Continuum Mechanics, **National Academy of Sciences of Ukraine, Institute of Mathematics**, Kiev, Ukraine, 2007.
- An approach for solving nonlocal determining equations, *IMA Summer School*, **University of Minnesota** (Poster Presentation), Minneapolis, U.S.A., 2006.
- Applications of Information Technologies in Mechanics Education, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2006.

- Symmetry group analysis of nonlocal equations in Mathematical Physics and new approaches, Department of Mathematics Seminar, **Istanbul Technical University**, Faculty of Science and Letter, Mathematics Department, 2005.
- A new approach for symmetry group analysis of nonlocal equations with general form, **National Academy of Sciences of Ukraine, Institute of Mathematics**, Kiev, Ukraine, 20-26 June, 2005.
- Web-based education models and applications, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2005.
- Applications of the Lie groups to integro-differential equations, Mathematical Physics Seminar, **University of Minnesota**, School of Mathematics, Minneapolis, U.S.A., 2004.
- On the symmetry group properties of equations with nonlocal structures, Differential Equations and Applications Seminar, **Istanbul Technical University**, Faculty of Science and Letter, Department of Mathematics, 2004.
- On the symmetry group properties of differential equations, Mustafa İnan Seminar, **Istanbul Technical University**, Department of Civil Engineering, 2004.