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## **CURRICULUM VITAE**

### **EDUCATION**

Ph. D. Mathematics (Faculty of Arts and Sciences)

September 2007-March 2011

University of Kocaeli, Kocaeli, Turkey

Advisor: Zahir Muradođlu

Ph. D. Thesis Title: An Inverse Coefficient Problem Defined With Monotone Potential Operator for an Elliptic Equation

M. S. Mathematics (Faculty of Arts and Sciences)

September 2004-July 2007

University of Kocaeli, Kocaeli, Turkey

Advisor: Alemdar Hasanoglu

M. S. Thesis Title: Solution of an Inverse Coefficient Problem For a Monotone Operator Related to Elasto-Plastic Torque of A Bar

B. S. Mathematics (Faculty of Arts and Sciences)

August 1999-August 2004

University of Kocaeli, Kocaeli, Turkey

### **WORK EXPERIENCE**

- (03.01.2018-current) **Associate Professor** at the Department of Mathematics & Computers Science, College of Science & General studies, Alfaisal University, Riyadh, Saudi Arabia .

- (01.10.2014-23.07.2016) **Associate Professor** at the Department of Elementary Mathematics Education, Faculty of Education, Zirve University, Gaziantep, Turkey.

- (01.06.2011-31.09.2014) **Assistant Professor** at the Department of Elementary Mathematics Education, Faculty of Education, Zirve University, Gaziantep, Turkey.

- (31.12.2005-31.05.2011) **Research Assistant** at Department of Mathematics, Kocaeli University, Kocaeli, Turkey.

## **RESEARCH INTERESTS**

- Nonlinear Partial Differential Equations
- Applied Mathematics and Numerical Analysis of PDEs
- Fractional Equations and Their Analysis
- Inverse Problems
- Nonlocal Equations
- Mathematical Modeling
- Numerical Methods
- Computational Materials Science
- Mathematical Problems in Elasticity and Elastoplasticity

## **TEACHING EXPERIENCE**

### **COURSES TAUGHT AT ZIRVE UNIVERSITY (IN ENGLISH)**

- Summer 2016: Differential Equations, Instructor. (Approx. 15 students)
- Spring 2016: Differential Equations, Instructor. (Approx. 250 students)
- Fall 2015: Differential Equations, Instructor. (Approx. 80 students) Hist. of Math, Instructor. (Approx. 50 students)
- Spring 2015: Differential Equations, Instructor. (Approx. 300 students)
- Fall 2014: Linear Algebra, Instructor. (Approx. 300 students)
- Summer 2014: Differential Equations, Instructor. (Approx. 50 students)
- Spring 2014: Differential Equations, Instructor. (Approx. 250 students)
- Fall 2013: Linear Algebra, Instructor. (Approx. 200 students)
- Summer 2013: Differential Equations, Instructor. (Approx. 60 students)
- Spring 2013: Differential Equations, Instructor. (Approx. 250 students)
- Fall 2012: Linear Algebra, Instructor. (Approx. 200 students) Probability and Statis. (Approx. 50 students)
- Spring 2012: Differential Equations, Instructor. (Approx. 60 students) Probability and Statis. (Approx. 50 students)
- Fall 2011: Linear Algebra, Instructor. (Approx. 60 students) Basic Math. (Approx. 50 students)

### **COURSES TAUGHT AT KOCAELI UNIVERSITY**

- Spring 2011: Math. 2, Teaching Assistant. (Approx. 50 students) Math. 3, Teaching Assistant. (Approx. 70 students)
- Fall 2010: Partial Differential Equations 1, Teaching Assistant. (Approx. 60 students) Matlab, Teaching Assistant. (Approx. 50 students)
- Spring 2010: Partial Differential Equations 2, Teaching Assistant. (Approx. 60 students)
- Fall 2009: Partial Differential Equations 1, Teaching Assistant. (Approx. 60 students) Differential Equations 1, Teaching Assistant. (Approx. 50 students)
- Spring 2009: Partial Differential Equations 2, Teaching Assistant. (Approx. 60 students) Differential Equations 2, Teaching Assistant. (Approx. 50 students)

## **RESEARCH GRANTS:**

- 1.** Solutions of Inverse Problems With Nonlocal Additional Conditions For Linear/Nonlinear Parabolic Equations and Applications to Water Remediation/Pollution and Ion Transfer Problems, October 2009-October 2010, Project number:108T332, **Granted P.h.D. Student.**
- 2.** Mathematical analysis and numerical solution of direct and inverse problems for some nonlinear elliptic and parabolic equations, February 2014-February 2016, Project number: 113F373, **Principal Investigator.**

## **PUBLICATONS:**

- 1.** Solutions of linear and nonlinear problems related to torsional rigidity of a beam , Alemdar Hasanov, **Salih Tatar**, Computational Materials Sciences, 45 (2009), 494-498.
- 2.** Semi-analytic inversion method for determination elastoplastic properties power hardening materials from limited torsional experiment, Alemdar Hasanov, **Salih Tatar**, Inverse Problems in Science and Engineering, 18 (2010), 265-278.
- 3.** An inversion method for identification of elastoplastic properties of a beam from torsional experiment, Alemdar Hasanov, **Salih Tatar**, International Journal of Non-Linear Mechanics, 45 (2010), 562-571.
- 4.** Analytical solutions of a class of inverse coefficients problems, Zhenhai Liu, **Salih Tatar**, Applied Mathematics Letters, 25 (2012), 2391-2395.
- 5.** Numerical solution of the nonlinear parabolic problem related to inverse elastoplastic torsional problem, **Salih Tatar**, Inverse Problems in Science and Engineering, 21 (2013), 52-62.
- 6.** Quasi-solution approach for a two dimensional nonlinear inverse diffusion problem, Yiliang Liu, **Salih Tatar**, Süleyman Ulusoy, Applied Mathematics and Computation, 219 (2013), 10956-10960.
- 7.** Monotonicity of input-output mapping related to inverse elastoplastic torsional problem, **Salih Tatar**, Applied Mathematical Modeling, 37 (2013), 9552-9561.
- 8.** Existence and uniqueness for a nonlinear inverse reaction-diffusion problem with a nonlinear source in higher dimensions, Fahir Talay Akyıldız, **Salih Tatar**, Süleyman Ulusoy, Mathematical Methods in the Applied Sciences, 36 (2013), 2397-2402.

9. A uniqueness result in an inverse problem for a space-time fractional diffusion equation, **Salih Tatar**, Süleyman Ulusoy, *Electronic Journal of Differential Equations (EJDE)*, 258 (2013), 1-9
10. Identification of the density dependent coefficient in an inverse reaction-diffusion problem from a single boundary data, Ramazan Tınaztepe, **Salih Tatar**, Süleyman Ulusoy, *Electronic Journal of Differential Equations*, 21 (2014), 1-14.
11. A modification of the semi-analytic inversion method: Determination of the yield stress and a comparison with the parametrization algorithm, **Salih Tatar**, Zahir Muradoğlu, *Inverse Problems in Science and Engineering*, 22 (2014), 543-556.
12. Numerical solution of the nonlinear evolutionary inverse problem related to elastoplastic torsional problem, **Salih Tatar**, Zahir Muradoğlu, *Applicable Analysis*, 93 (2014), 1187-1200.
13. Determination of an unknown source term in a space-time fractional diffusion equation, **Salih Tatar**, Ramazan Tınaztepe, Süleyman Ulusoy, *Journal of Fractional Calculus and Applications (JFCA)*, 6 (2015), 94-101.
14. An inverse source problem for a one dimensional space-time fractional diffusion equation, **Salih Tatar**, Süleyman Ulusoy, *Applicable Analysis*, 94 (2015), 2233-2244.
15. Structural stability for the Morris-Lecar neuron model, Zhenhai Liu, **Salih Tatar**, Süleyman Ulusoy, Mustafa Zeki, *Applied Mathematics and Computation*, 270 (2015), 261-268.
16. An inverse coefficient problem for a nonlinear reaction diffusion with a nonlinear source, **Salih Tatar**, Süleyman Ulusoy, *Electronic Journal of Differential Equations*, 245 (2015), 1-10.
17. Simultaneous inversion for the exponents of the fractional time and space derivatives in the space-time fractional diffusion equation, **Salih Tatar**, Ramazan Tınaztepe, Süleyman Ulusoy, *Applicable Analysis*, 95 (2016), 1-23.
18. Simultaneous determination of the strain hardening exponent, the shear modulus and the elastic stress limit in an inverse problem, **Salih Tatar**, Ramazan Tınaztepe, Zahir Muradoğlu, *Applied Mathematical Modeling*, 40 (2016), 6956-6968.
19. An inverse problem for a nonlinear diffusion equation with time-fractional derivative, **Salih Tatar**, Süleyman Ulusoy, *Journal of Inverse and Ill-posed Problems*, 25 (2017), 185-193.

20. Analysis of direct and inverse problems for a fractional elastoplasticity equation, **Salih Tatar**, Süleyman Ulusoy, Filomat, 31 (2017), 699-708.

21. Numerical solutions of direct and inverse problems for a time fractional viscoelastoplastic equation, **Salih Tatar**, Ramazan Tınaztepe, Mustafa Zeki, ASCE journal of Engineering Mechanics, 143 (2017), 04017035.

22. Tikhonov regularization method for a backward problem for a inhomogeneous time-fractional diffusion equation, Nguyen Huy Tuan, Le Ding Long, **Salih Tatar**, Applicable Analysis, **to appear**.

#### **SUBMITTED FOR PUBLICATION:**

1. Recovery of the solute concentration and dispersion flux in an inhomogeneous time fractional diffusion equation, Nguyen Huy Tuan, Tran Bao Ngoc, **Salih Tatar**, **submitted to Journal of Computational and Applied Mathematics**.

2. An inverse problem for an inhomogeneous time-fractional diffusion equation: A regularization method and error estimate, Nguyen Huy Tuan, Luu Vu Cam Hoan, **Salih Tatar**, **submitted to EJDE**.

#### **WORK IN PROGRESS:**

1. Invertibility of Input-Output Mappings in an Inverse Problem for a Nonlinear Fractional Diffusion Equation, **Salih Tatar**, Süleyman Ulusoy.

#### **TALKS&PRESENTATIONS:**

1. Simultaneous inversion for the exponents of the fractional time and space derivatives in the space-time fractional diffusion equation, The seventh International conference "Inverse problems: Modeling and simulation", **Salih Tatar**, Ramazan Tınaztepe, Süleyman Ulusoy, 2014.

2. Identifying the unknown coefficient in a nonlinear elliptic problem, "The sixth International conference Inverse problems: Modeling and simulation", Alemdar Hasanov, **Salih Tatar**, 2012.

3. The secret of Pi, Pi Day, Zirve University, **Salih Tatar**, 2011.

4. On some olympic math. Problems, Kocaeli University, **Salih Tatar**, 2010.

5. An inversion method for identification of elastoplastic properties of a beam from torsional experiment, "The fifth International conference Inverse problems: Modeling and simulation", Alemdar Hasanov, **Salih Tatar**, 2010.

6. A nonlocal identification problem related to determination of unknown parameters of a cylindrical bar from measured torque, **Salih Tatar**, Alemdar Hasanoğlu, The fourth International conference, "Inverse problems: Modeling and simulation", 2008.

7. An inverse problem related to determination of elastoplastic properties of a beam from the torsional rigidity, **Salih Tatar**, Alemdar Hasanoğlu, ISAAC Congress, 2007.

#### **CONFERENCE ORGANIZATIONS:**

1. The Fourth International Conference "Inverse Problems: Modeling and Simulation, May 26-30, 2008, Oludeniz-Fethiye, **International Program Committee**.

2. The Fifth International Conference "Inverse Problems: Modeling and Simulation, May 26-30, 2010, Antalya, **International Program Committee**.

3. International Conference on Global Issues of Early Childhood Education and Children's Rights, April 27-29, Gaziantep, **Session Chair**.

#### **MEMBERSHIPS IN EDITORIAL BOARDS OF INTERNATIONAL JOURNALS:**

1. Member of Editorial Board, Caspian Journal of Applied Sciences Research (2012-2014)

2. Member of Editorial Board, Scientific Research and Essays (2012-2013)

#### **REFERENCES**

1. Zahir Muradoğlu, Professor (PhD Advisor)  
Address: Kocaeli University, Department of Math., Kocaeli, Turkey  
e-mail: zahir@kocaeli.edu.tr

2. Alemdar Hasanoğlu, Professor (Ms Advisor)  
Address: Izmir University, Department of Math., Izmir, Turkey  
e-mail: alemdar.hasanoglu@gmail.com

3. Masahiro Yamamoto, Professor  
Address: Department of Mathematical Sciences, Tokyo University, Japan  
e-mail: myama@next.odn.ne.jp

4. Zhenhai Liu, Professor  
Address: College of Sciences, Guangxi University for Nationalities, China  
e-mail: zhliu@hotmail.com

5. Zübeyir Çinkir, Associate Professor (On Teaching Effectiveness)  
Address: Abdullah Gul University, Kayseri, Turkey  
e-mail: zubeyirc@gmail.com

6. Serdal Pamuk, Professor (On Teaching Effectiveness)  
Address: Kocaeli University, Department of Math., Kocaeli, Turkey  
e-mail: spamuk@kocaeli.edu.tr

**REFEREE FOR:**

- Inverse Problems
- Inverse Problems in Science and Engineering
- International Journal of Physical Sciences
- Scientific Research and Essays
- Asian Journal of Control
- Electronic Journal of Differential Equations
- Dynamics of Continuous, Discrete & Impulsive Systems, Series A: Mathematical Analysis
- American Journal of Computational and Applied Mathematics
- Caspian Journal of Applied Sciences Research
- Mathematica Slovaca
- Abstract and Applied Analysis
- Journal of Applied Mathematics
- Pure and Applied Mathematics Journal
- IMA Journal of Mathematical Control and Information
- International Journal of Solids and Structures

**MEMBERSHIPS IN SCIENTIFIC ORGANIZATIONS:**

1. Turkish Mathematical Society (2013-2016)

2. Mathematicians Society (2013-2016)