CURRICULUM VITAE

as of October, 2022

NAME: Tuğrul Burak Gürel
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ACADEMIC DEGREES:

- Ph.D.   Mathematics, 1995-1999
                 Bilkent University, Ankara, Turkey

- M.Sc.   Mathematics, 1993-1995
                 Bilkent University, Ankara, Turkey

- B.Sc.   Mathematics, 1990-1993
                 Middle East Technical University, Ankara, Turkey

CURRENT RESEARCH INTERESTS:

- Analysis of PDE, dispersive equations

- Smoothing and well-posedness of Cauchy, periodic and boundary value problems

- Integrable systems and related boundary value problems

SCHOLARSHIPS AND AWARDS:

- 09/2016–08/17   Visiting Researcher Fellowship of the Fulbright Foundation

- 2005, 2013   Award for Excellence in Teaching Boğaziçi University

- 10/2000–06/02   Post-doctoral Fellowship of the Alexander von Humboldt Foundation, Germany

- 10/1998–09/99   Orhan Alisbah Mathematics Fellow (Departmental Award of Mathematics Department of Bilkent University for an outstanding Ph.D. student)

- 10/1995–09/99   TÜBİTAK-BDP (Turkish Scientific and Technical Research Council–Unified Ph.D. Program)

- 10/1993–09/99   M.Sc. and Ph.D. scholarship from Bilkent University

- 10/2018–present   Professor of Mathematics
  Department of Mathematics, Boğaziçi University, İstanbul

- 09/2016–08/17   Visiting Researcher
  Department of Mathematics, University of Illinois, Urbana-Champaign, Illinois-USA

- 04/2013–05/13   Visiting Scholar
  Department of Mathematics, Indiana University, Bloomington, Indiana-USA

- 11/2011–10/18   Assoc. Prof. of Mathematics
  Department of Mathematics, Boğaziçi University, İstanbul

- 07/2002–10/11   Asst. Prof. of Mathematics
  Department of Mathematics, Boğaziçi University, İstanbul

- 02/2001–06/02   Alexander von Humboldt-Stiftung Post-Doctoral Research Fellow
  Department of Mathematics-Informatics, University of Paderborn, Paderborn, Germany

- 10/2000–01/01   Language Fellowship of Alexander von Humboldt-Stiftung
  Goethe-Institut, Göttingen, Germany

- 03/2000–09/00   Post-Doctoral Fellow
  Feza Gürsey Institute for Mathematics and Theoretical Physics, İstanbul

- 09/1999–02/00   Research Instructor
  Department of Mathematics, Bilkent University, Ankara

- 10/1998–06/99   Part Time Instructor
  Department of Mathematics, Bilkent University, Ankara

- 09/1997–09/98   Visiting Research Student
  Department of Applied Mathematics, University of Leeds, Leeds, UK

- 10/1996–06/97   Instructor
  Department of Mathematics, Bilkent University, Ankara

- 10/1993–09/99   Research Assistant
  Department of Mathematics, Bilkent University, Ankara

Papers:

- Başakoğlu E. and Gürel, T.B. (2022): Smoothing and global attractors for the Hirota-Satsuma equation on the torus. 40 pages **https://arxiv.org/abs/2204.12480**, submitted.

- Erdoğan, M.B., Gürel, T.B. and Tzirakis, N. (2020): The fifth-order KP-II equation on the upper half-plane. Differential and Integral Equations **33**, 555-596.

- Erdoğan, M.B., Gürel, T.B. and Tzirakis, N. (2019): Smoothing for the fractional Schrödinger equation on the torus and the real line. Indiana University Math. J. **68**, 369-392.

- Erdoğan, M.B., Gürel, T.B. and Tzirakis, N. (2018): The derivative nonlinear Schrödinger equation on the half-line. Annales I. H. Poincaré C **AN 35**, 1947-1973.

- Eden, A. and Gürel, T.B. (2013): On the integrability of a generalized Davey–Stewartson system. Physica D **259**, 1-7.

- Eden, A., Gürel, T.B. and Kuz, E. (2009): Focusing and defocusing cases of the purely elliptic generalized Davey–Stewartson system. IMA J. Appl. Math. **74**, 710-725.

- Eden, A. and Gürel, T.B. (2009): On the special solutions of the generalized Davey–Stewartson system. Appl. Math. Lett. **22**, 1174-1177.

- Fordy, A.P. and Gürel, T.B. (2000): A new construction of recursion operators for systems of hydrodynamic type. Theoret. Math. Phys. **122**, 29-38.

- Gürel, B. and Habibullin, I. (1997): Boundary conditions for two-dimensional integrable chains. Phys. Lett. A **233**, 68-72.

- Adler V., Gürel, B., Gürses, M. and Habibullin, I. (1997): Boundary conditions for integrable equations. J. Phys. A: Math. Gen. **30**, 3505-3513.

- Gürel, T.B., Gürses, M. and Habibullin, I. (1996): Integrable boundary conditions for evolution equations. Nonlinear Physics: Theory and Experiment, edited by: E. Alfinito, M. Boiti, L. Martina and F. Pempinelli **131-138**, World Scientific, Singapore.

- Gürel, B., Gürses, M. and Habibullin, I. (1995): Boundary value problems for integrable equations compatible with the symmetry algebra. J. Math. Phys. **36**, 6809-6821.

- Gürel, B., Gürses, M. and Habibullin, I. (1994): Boundary value problems compatible with symmetries. Phys. Lett. A **190**, 231-237.

TEACHING:

- Advanced level courses:

  - Math 531   Real Analysis I
  - Math 587   Selected Topics in Differential Equations
  - Math 552   Partial Differential Equations II
  - Math 551   Partial Differential Equations I
  - Math 48W   Lebesgue Integral
  - Math 48E   Lie Groups and Differential Equations
  - Math 455   Calculus of Variations

- Math 433   Fourier Analysis
- Math 432   Complex Analysis II
- Math 431   Complex Analysis I

- **Intermediate level courses:**

  - Math 352   Partial Differential Equations
  - Math 351   Qualitative Theory of Ordinary Differential Equations
  - Math 333   Fourier Series
  - Math 332   Lebesgue Integral
  - Math 331   Metric Spaces
  - Math 234   Advanced Calculus II
  - Math 231   Advanced Calculus I
  - Math 224   Linear Algebra I

- **Elementary level courses:**

  - Math 202   Differential Equations
  - Math 201   Matrix Theory
  - Math 132   Calculus for Math Students II
  - Math 105   Introduction to Finite Mathematics
  - Math 102   Calculus II
  - Math 101   Calculus I

Graduate Theses Supervised:

- **Ph.D.:**

  1. E. Başakoğlu, "Smoothing Properties of Initial-Boundary Value Problems", Boğaziçi University, July 2022 (Postdoc at the University of Birmingham, UK).

- **M.Sc.:**

  2. O. Yılmaz, "Global well-posedness of NLS Equations", Boğaziçi University, July 2022.

  3. Ş. Kuzgun, "Smoothing effect for the periodic KdV equation", Boğaziçi University, July 2016.

  4. F. Çiçek, "Algebro-geometric solutions of the Kadomtsev-Petviashvili equation", (Co-advisor) Boğaziçi University, July 2014.

  5. A. Taghiyev, "Null controllability of 1-d heat equation with switching controls", Boğaziçi University, June 2013.

  6. İ.E. Çolak, "Integrability of equations of Davey–Stewartson type", Boğaziçi University, June 2009.

7. D. Bilman, "On the Zakharov–Schulman equations", (Co-advisor) Boğaziçi University, June 2009.

8. G. Goralı, "Integrability of symplectic mappings", Boğaziçi University, September 2004.

SPONSORED RESEARCH:

1. **Sponsor:** TÜBİTAK-118F152, 1001
   Project Title: Dispersif Kısmi Diferansiyel Denklemlerin Düzgünlük Özellikleri
   Date: 2018-2020
   Principal Investigator: T.B. Gürel

2. **Sponsor:** B.U. BAP (P) 14081
   Project Title: Smoothing Properties of Initial-Boundary Value Problems
   Date: 2018-2020
   Principal Investigator: T.B. Gürel

3. **Sponsor:** TÜBİTAK-110T227, 1001
   Project Title: Almost Cubic Nonlinear Schrödinger Equations
   Date: 2010-2012
   Principal Investigator: T. B. Gürel, co-investigator: A. Eden

4. **Sponsor:** TÜBİTAK-110E264, 1001
   Project Title: CaReRa: A Search Engine for Similar Cases in Radiology Databases
   Date: 2011-2014
   Principal Investigator: B. Acar, B.U. Department of Electrical and Electronics Engineering

5. **Sponsor:** TÜBİTAK-104E035, EU 6th Framework SIMILAR NoE
   Project Title: KARİYER-DRESS: Diagnostic Radiology Expert Support Systems
   Date: 2005-2010
   Principal Investigator: B. Acar, B.U. Department of Electrical and Electronics Engineering

SERVICE TO UNIVERSITY AND COMMUNITY:

- Administrative:
    - FAS Board Member (professor representative)
    - Department Chair 2019-2022 (ended)
    - Vice Department Chair (ended)
    - Member of the University's IT committee (ended)
    - Member of the departmental hiring committee (ended)
    - Academic advisor of the Cinema Club of the university

- Educational:
    - Graduate program advisor and entrance exam coordinator (ended)
    - Graduate student supervision
    - Member of graduate thesis committees
    - Undergraduate project supervision
    - Talks at sessions by Math and Science Clubs of the university