

# Prof. BAHTİYAR ÖZGÜR SARIOĞLU

## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: A-5490-2019

ScopusID: 6603312271

Yoksis Researcher ID: 1899

## Education Information

Doctorate, Brandeis University, United States Of America 1994 - 2000

Postgraduate, Ihsan Dogramaci Bilkent University, Institute Of Engineering And Natural Sciences, Matematik (YI) (Tezli), Turkey 1991 - 1993

Undergraduate, Ihsan Dogramaci Bilkent University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 1987 - 1991

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Duality/Propagation Properties of Gauge Theories and Attempts at Supersymmetry Breaking in N=4 SYM, Brandeis University, 2000

Postgraduate, An Integrable Family of Monge-Ampere Equations and Their Multi-Hamiltonian Structure,, Bilkent Üniversitesi, 1993

## Research Areas

Differential Equations, Differential Geometry, Physics, Mathematical Methods in Physics, Relativity and Gravitation, Quantum Mechanics, Fields Theory and Relativity, Basic Particles and Areas

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2010 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2006 - 2010

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2001 - 2006  
Lecturer PhD, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2000 - 2001  
Research Assistant, Brandeis University, Fizik Bölümü, 1994 - 1999  
Research Assistant, Ihsan Dogramaci Bilkent University, Faculty Of Science, Department Of Mathematics, 1991 - 1994

## Advising Theses

SARIOĞLU B. Ö., On the finite perimeter sets of Sub-Lorentzian metric spaces, Postgraduate, G.ÇETİN(Student), 2022  
SARIOĞLU B. Ö., 3D Chern-Simons-like gravity models for  $N=2,3,4$ , Postgraduate, B.DEDEOĞLU(Student), 2022  
SARIOĞLU B. Ö., Killing family of tensors and hidden symmetries, Postgraduate, O.GÜNEL(Student), 2022  
SARIOĞLU B. Ö., Knotted solutions of maxwell equations, Postgraduate, S.Eren.(Student), 2019  
SARIOĞLU B. Ö., Second-order scalar-tensor field theories, Postgraduate, E.SİNAN(Student), 2017  
SARIOĞLU B. Ö., Anisotropic solutions for generalised holography, Doctorate, D.OLGU(Student), 2016  
SARIOĞLU B. Ö., Killing family of tensors in classical gravitational theories, Postgraduate, Ç.MENEKAY(Student), 2013  
SARIOĞLU B. Ö., Covariant symplectic structure and conserved charges of new massive gravity, Postgraduate, G.ALKAÇ(Student), 2012  
SARIOĞLU B. Ö., Conserved charges of quadratic curvature gravity theories in arbitrary backgrounds, Postgraduate, D.OLGU(Student), 2010  
SARIOĞLU B. Ö., Gödel spacetime, Postgraduate, M.KAVUK(Student), 2005  
SARIOĞLU B. Ö., Dualisation of supergravity theories, Doctorate, N.TEVFİK(Student), 2004  
SARIOĞLU B. Ö., Tunnelling time models and 'superluminality', Postgraduate, H.SEVİNÇLİ(Student), 2002

## Jury Memberships

Award, TÜBA GEBİP, Middle East Technical University, July, 2021  
Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Yıldız Teknik Üniversitesi, May, 2021  
Associate Professor Exam, Associate Professor Exam, Ege Üniversitesi, May, 2021  
Doctorate, Doctorate, Eskişehir Teknik Üniversitesi, January, 2021

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

- I. **Rotating  $AdS_3 \times S^3$  and dyonic strings from 3-dimensions**  
Deger N. S., Deral C. A., Saha A., SARIOĞLU B. Ö.  
Journal of High Energy Physics, vol.2024, no.10, 2024 (SCI-Expanded)
- II. **Conserved charges of the Kerr black hole revisited**  
Günel O., Sarioğlu B. Ö.  
EUROPEAN PHYSICAL JOURNAL C, vol.83, no.9, 2023 (SCI-Expanded)
- III. **Geometry, conformal Killing-Yano tensors and conserved "currents"**  
Lindström U., Sarioğlu B. Ö.  
Journal of High Energy Physics, vol.2023, no.5, 2023 (SCI-Expanded)
- IV. **Killing-Yano charges of asymptotically maximally symmetric black holes**  
Günel O., Lindström U., Sarioğlu B. Ö.  
PHYSICS LETTERS B, vol.839, 2023 (SCI-Expanded)
- V. **Gravitational duality, Palatini variation and boundary terms: a synopsis**  
Lindström U., Sarioğlu B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.40, no.8, 2023 (SCI-Expanded)
- VI. **A comment on metric vs metric-affine gravity**

- Lindström U. G., Sarioğlu B. Ö.  
PHYSICS LETTERS B, vol.836, 2023 (SCI-Expanded)
- VII. **Tensionless strings and Killing(-Yano) tensors**  
Lindström U., SARIOĞLU B. Ö.  
Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.829, 2022 (SCI-Expanded)
- VIII. **Killing-Yano Cotton currents**  
Lindstrom U., Sarioglu O.  
JOURNAL OF HIGH ENERGY PHYSICS, vol.2022, no.3, 2022 (SCI-Expanded)
- IX. **New currents with Killing-Yano tensors**  
Lindstrom U., Sarioglu O.  
CLASSICAL AND QUANTUM GRAVITY, vol.38, no.19, 2021 (SCI-Expanded)
- X. **Consistent S-3 reductions of six-dimensional supergravity**  
Samtleben H., Sarioglu O.  
PHYSICAL REVIEW D, vol.100, no.8, 2019 (SCI-Expanded)
- XI. **Circularly symmetric solutions of minimal massive gravity at its merger point**  
SARIOĞLU B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.36, no.14, 2019 (SCI-Expanded)
- XII. **Stationary Lifshitz black hole of New Massive Gravity**  
SARIOĞLU B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.36, no.1, 2019 (SCI-Expanded)
- XIII. **Supersymmetric solutions of  $N = (1,1)$  general massive supergravity**  
DEĞER N. S., Nazari Z., SARIOĞLU B. Ö.  
PHYSICAL REVIEW D, vol.97, no.10, 2018 (SCI-Expanded)
- XIV. **Kundt solutions of minimal massive 3D gravity**  
DEĞER N. S., SARIOĞLU B. Ö.  
PHYSICAL REVIEW D, vol.92, no.10, 2015 (SCI-Expanded)
- XV. **All timelike supersymmetric solutions of three-dimensional half-maximal supergravity**  
DEĞER N. S., Moutsopoulos G., Samtleben H., SARIOĞLU B. Ö.  
JOURNAL OF HIGH ENERGY PHYSICS, no.6, 2015 (SCI-Expanded)
- XVI. **A supersymmetric reduction on the three-sphere**  
DEĞER N. S., Samtleben H., SARIOĞLU B. Ö., Van den Bleeken D.  
NUCLEAR PHYSICS B, vol.890, pp.350-362, 2015 (SCI-Expanded)
- XVII. **Stationary Lifshitz black holes of R-2-corrected gravity theory**  
SARIOĞLU B. Ö.  
PHYSICAL REVIEW D, vol.84, no.12, 2011 (SCI-Expanded)
- XVIII. **Thermodynamics of Lifshitz black holes**  
Devecioglu D. O., SARIOĞLU B. Ö.  
PHYSICAL REVIEW D, vol.83, no.12, 2011 (SCI-Expanded)
- XIX. **Conserved Killing charges of quadratic curvature gravity theories in arbitrary backgrounds**  
Devecioglu D. O., SARIOĞLU B. Ö.  
PHYSICAL REVIEW D, vol.83, no.2, 2011 (SCI-Expanded)
- XX. **On the supersymmetric solutions of  $D=3$  half-maximal supergravities**  
DEĞER N. S., Samtleben H., SARIOĞLU B. Ö.  
NUCLEAR PHYSICS B, vol.840, pp.29-53, 2010 (SCI-Expanded)
- XXI. **Self-dual solutions of Yang-Mills theory on Euclidean AdS space**  
SARIOĞLU B. Ö., TEKİN B.  
PHYSICAL REVIEW D, vol.79, no.10, 2009 (SCI-Expanded)
- XXII. **Note on cosmological Levi-Civita spacetimes in higher dimensions**  
SARIOĞLU B. Ö., TEKİN B.  
PHYSICAL REVIEW D, vol.79, no.8, 2009 (SCI-Expanded)
- XXIII. **Comment on 'A second anti-de Sitter universe'**

- SARIOĞLU B. Ö., TEKİN B.  
CLASSICAL AND QUANTUM GRAVITY, vol.26, no.4, 2009 (SCI-Expanded)
- XXIV. **Finite mass gravitating Yang monopoles**  
CEBECİ H., SARIOĞLU O., TEKİN B.  
PHYSICAL REVIEW D, vol.78, no.12, 2008 (SCI-Expanded)
- XXV. **Cotton flow**  
KISSEL A. U. O., SARIOĞLU O., TEKİN B.  
CLASSICAL AND QUANTUM GRAVITY, vol.25, no.16, 2008 (SCI-Expanded)
- XXVI. **Spherically symmetric solutions of Einstein plus non-polynomial gravities**  
DESER S., SARIOĞLU O., TEKİN B.  
GENERAL RELATIVITY AND GRAVITATION, vol.40, no.1, pp.1-7, 2008 (SCI-Expanded)
- XXVII. **Topologically massive gravity as a Pais-Uhlenbeck oscillator**  
SARIOĞLU O., TEKİN B.  
CLASSICAL AND QUANTUM GRAVITY, vol.23, no.24, pp.7541-7549, 2006 (SCI-Expanded)
- XXVIII. **Gravitational charges of transverse asymptotically AdS spacetimes**  
CEBECİ H., SARIOĞLU O., TEKİN B.  
PHYSICAL REVIEW D, vol.74, no.12, 2006 (SCI-Expanded)
- XXIX. **New supersymmetric solutions in N=2 matter coupled AdS(3) supergravities**  
DEGER N. S., SARIOĞLU O. R.  
JOURNAL OF HIGH ENERGY PHYSICS, no.8, 2006 (SCI-Expanded)
- XXX. **Closed timelike curves and geodesics of Godel-type metrics**  
GLEISER R., GURSES M., KARASU A., SARIOĞLU O.  
CLASSICAL AND QUANTUM GRAVITY, vol.23, no.7, pp.2653-2663, 2006 (SCI-Expanded)
- XXXI. **Negative mass solitons in gravity**  
CEBECİ H., SARIOĞLU O., TEKİN B.  
PHYSICAL REVIEW D, vol.73, no.6, 2006 (SCI-Expanded)
- XXXII. **Accelerated Levi-Civita-Bertotti-Robinson metric in D dimensions**  
GURSES M., SARIOĞLU O.  
GENERAL RELATIVITY AND GRAVITATION, vol.37, no.12, pp.2015-2022, 2005 (SCI-Expanded)
- XXXIII. **Godel-type metrics in various dimensions: II. Inclusion of a dilaton field**  
GURSES M., SARIOĞLU O.  
CLASSICAL AND QUANTUM GRAVITY, vol.22, no.22, pp.4699-4713, 2005 (SCI-Expanded)
- XXXIV. **Mass and angular momentum of asymptotically AdS or flat solutions in the topologically massive gravity**  
OLMEZ S., SARIOĞLU O., TEKİN B.  
CLASSICAL AND QUANTUM GRAVITY, vol.22, no.20, pp.4355-4361, 2005 (SCI-Expanded)
- XXXV. **Godel-type metrics in various dimensions**  
GURSES M., KARASU A., SARIOĞLU O.  
CLASSICAL AND QUANTUM GRAVITY, vol.22, no.9, pp.1527-1543, 2005 (SCI-Expanded)
- XXXVI. **Supersymmetric strings and waves in D=3, N=2 matter coupled gauged supergravities**  
DEGER N., SARIOĞLU O.  
JOURNAL OF HIGH ENERGY PHYSICS, no.12, 2004 (SCI-Expanded)
- XXXVII. **Some further properties of the accelerated Kerr-Schild metrics**  
GURSES M., SARIOĞLU O.  
GENERAL RELATIVITY AND GRAVITATION, vol.36, no.2, pp.403-410, 2004 (SCI-Expanded)
- XXXVIII. **Lienard-Wiechert potentials in even dimensions**  
GURSES M., SARIOĞLU O.  
JOURNAL OF MATHEMATICAL PHYSICS, vol.44, no.10, pp.4672-4680, 2003 (SCI-Expanded)
- XXXIX. **Accelerated Born-Infeld metrics in Kerr-Schild geometry**  
GÜRSES M., SARIOĞLU B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.20, no.2, pp.351-358, 2003 (SCI-Expanded)

- XL. **Lienard-Wiechert potentials of a non-Abelian Yang-Mills charge**  
Sarioğlu O.  
PHYSICAL REVIEW D, vol.66, no.8, 2002 (SCI-Expanded)
- XLI. **Accelerated charge Kerr-Schild metrics in D dimensions**  
GÜRSES M., SARIOĞLU B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.19, no.16, pp.4249-4261, 2002 (SCI-Expanded)
- XLII. **Supersymmetric solutions to topologically massive gravity and black holes in three dimensions**  
Dereli T., Sarioğlu O.  
PHYSICAL REVIEW D, vol.64, no.2, 2001 (SCI-Expanded)
- XLIII. **"Self dual" solutions of topologically massive gravity coupled with the Maxwell-Chern-Simons theory**  
Dereli T., Sarioğlu O.  
PHYSICS LETTERS B, vol.492, pp.339-343, 2000 (SCI-Expanded)
- XLIV. **Shock-free wave propagation in gauge theories**  
McCarthy J., SARIOĞLU B. Ö.  
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.39, no.1, pp.159-182, 2000 (SCI-Expanded)
- XLV. **'Good propagation' and duality invariance constraints on scalar, gauge vector and gravity actions**  
Deser S., McCarthy J., SARIOĞLU B. Ö.  
CLASSICAL AND QUANTUM GRAVITY, vol.16, no.3, pp.841-847, 1999 (SCI-Expanded)
- XLVI. **Hamiltonian electric/magnetic duality and Lorentz invariance**  
Deser S., SARIOĞLU B. Ö.  
Physics Letters B, vol.423, pp.369-372, 1998 (SCI-Expanded)
- XLVII. **AN INTEGRABLE FAMILY OF MONGE-AMPERE EQUATIONS AND THEIR MULTI-HAMILTONIAN STRUCTURE**  
NUTKU Y., SARIOĞLU B. Ö.  
Physics Letters A, vol.173, pp.270-274, 1993 (SCI-Expanded)

## Books & Book Chapters

- I. **Philosophical Concepts in Physics, The Historical Relation between Philosophy and Scientific Theories**  
Sarioğlu B. Ö.  
Sabancı Üniversitesi Yayinevi, İstanbul, 2006
- II. **Philosophical Concepts in Physics, The Historical Relation between Philosophy and Scientific Theories**  
Sarioğlu B. Ö.  
Sabancı Üniversitesi Yayinevi, İstanbul, 2003

## Refereed Congress / Symposium Publications in Proceedings

- I. **Uses of Killing and Killing-Yano Tensors**  
Lindström U., SARIOĞLU B. Ö.  
20th Hellenic School and Workshops on Elementary Particle Physics and Gravity, CORFU 2021, Corfu, Greece, 29 August - 09 October 2021, vol.406
- II. **Closed timelike curves and geodesics of gödel-type metrics**  
SARIOĞLU B. Ö.  
11th Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Gravitation and Relativistic Field Theories, MG 2006, Berlin, Germany, 23 - 29 July 2006, pp.2255-2257

## Scientific Refereeing

JOURNAL OF HIGH ENERGY PHYSICS, SCI Journal, August 2023

Special Functions: Comprehensive Rejuvenated Approach and Applications, Scientific / Professional Book Published by Renowned Publishing Houses, May 2023

PHYSICAL REVIEW D - PARTICLES, FIELDS, GRAVITATION AND COSMOLOGY, SCI Journal, April 2022

TUBITAK Project, 2247 - A National Leading Researchers Program, Istanbul Technical University, Turkey, November 2021

PHYSICAL REVIEW D - PARTICLES, FIELDS, GRAVITATION AND COSMOLOGY, SCI Journal, October 2021

PHYSICAL REVIEW D, SCI Journal, April 2021

## Metrics

Publication: 51

Citation (WoS): 489

Citation (Scopus): 526

H-Index (WoS): 14

H-Index (Scopus): 15

## Awards

Sariođlu B. Ö., TU'BA University Textbooks Award Program - Best Translation Award in Natural Sciences, Tüba, December 2009

Sariođlu B. Ö., TU'BI'TAK-TWAS Incentive Award, Tübitak, December 2007

## Non Academic Experience

Orta Dođu Teknik Üniversitesi Fizik Bölümü

Orta Dođu Teknik Üniversitesi Fizik Bölümü

Brandeis University Dept. of Physics

Bilkent Üniversitesi Matematik Bölümü