

CURRICULUM VITAE

Bahtiyar Özgür Sarioğlu

Personal Data:

Name: Bahtiyar Özgür Sarioğlu
Birth: August 3, 1969 in Akhisar/Manisa, Turkey
Nationality: Turkish
Marital status: Married with twin daughters

Contact Information:

Address: Department of Physics, Faculty of Arts and Sciences,
Middle East Technical University, 06800, Ankara, Turkey
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ResearcherID: <http://www.researcherid.com/rid/A-5490-2019>

Education:

Institution and Location	Degree	Year Conferred	Field of Study
Bilkent University, Ankara, Turkey	B.Sc.	June 1991	Electrical & Electronics Eng.
Bilkent University, Ankara, Turkey	M.Sc.	June 1993	Mathematics
Brandeis University, Waltham, MA, USA	Ph.D.	February 2000*	Physics

*: Ph.D. thesis defended successfully on September 7, 1999.

Theses:

◇ *An Integrable Family of Monge-Ampère Equations and Their Multi-Hamiltonian Structure*, Bilkent University, June 1993, (thesis advisor: Prof. Dr. Yavuz Nutku).

◇ *Duality/Propagation Properties of Gauge Theories and Attempts at Supersymmetry Breaking in $\mathcal{N} = 4$ SYM*, Brandeis University, February 2000, (thesis advisor: Prof. Stanley Deser).

Academic Honors:

◇ Recipient of the SSHN (Séjour Scientifique de Haut Niveau) scholarship award sponsored by the French Embassy of Turkey for 2018.

◇ Recipient of the TÜBA University Textbooks Award Program - Best Translation Award in Natural Sciences for 2009.

◇ Recipient of the TÜBİTAK-TWAS Incentive Award for 2007.

- ◇ Associate Professorship entitled by YÖK in April 2004.
- ◇ Recipient of the David L. Falkoff Graduate School Prize Award for 1995-96.
- ◇ Teaching assistantship (covering full tuition and including a monthly stipend) by Brandeis University, from September 1994 to August 1999.
- ◇ Teaching assistantship (covering full tuition, accommodations and a monthly salary) by Bilkent University, from September 1991 to July 1994.
- ◇ Fellowship (covering full tuition, food and accommodations, and a monthly stipend) by Bilkent University, from September 1987 to June 1991.

Employment and Experience:

- ◇ Professor in the Physics Dept. of METU, Ankara, since October 2010.
- ◇ Associate Professor in the Physics Dept. of METU, Ankara, from October 2006 to October 2010.
- ◇ Assistant Professor in the Physics Dept. of METU, Ankara, from June 2001 to October 2006.
- ◇ Instructor in the Physics Dept. of METU, Ankara, from January 2000 to June 2001.
- ◇ Full time graduate student in the Physics Dept. of Brandeis University, from September 1994 to August 1999.
- ◇ Full time graduate student in the Mathematics Dept. of Bilkent University, from September 1991 to July 1994.
- ◇ Visiting researcher at CBPF in Rio de Janeiro, Brazil, from October 1993 to November 1993.

Schools and Conferences:

- ◇ *Supersymmetries and Quantum Symmetries – SQS'19*, Yerevan, Armenia, August 26-31, 2019.
- ◇ *Recent Developments in Symmetries and (Super)gravity Theories*, IMBM, İstanbul, June 13-15, 2016.
- ◇ Organizer for *Recent Developments in Supergravity Theories*, IMBM, İstanbul, June 18-20, 2014.
- ◇ *Quantum Aspects of Black Holes and its Recent Progress*, Yerevan, Armenia, September 24-26, 2013.
- ◇ *Spanish-Portuguese Relativity Meeting ERE 2013*, Benasque, Spain, September 9-13, 2013.
- ◇ *Open Questions in an Open Universe*, IMBM, İstanbul, August 12-17, 2013.
- ◇ *Strings, Branes and Supergravity*, Koç University, İstanbul, August 1-5, 2011.
- ◇ *Spanish Relativity Meeting ERE 2008, Physics and Mathematics of Gravitation*, Salamanca, Spain, September 15-19, 2008.
- ◇ *İstanbul 2007: Strings, Branes and Cosmology*, Koç University, İstanbul, July 9-13, 2007.
- ◇ Organizer for *Workshop on Quantization, Dualities and Integrable Systems VI*, Middle East Technical University, Ankara, April 20-22, 2007.
- ◇ *11th Marcel Grossmann Meeting*, Berlin, Germany, July 23-29, 2006.
- ◇ *XXVIII Spanish Relativity Meeting ERE 2005, A Century of Relativity Physics*, Oviedo, Spain, September 6-10, 2005.
- ◇ *Symmetry in Nonlinear Mathematical Physics VI*, Kiev, Ukraine, June 20-26, 2005.

◇ *Mini-Workshop on Quantization, Dualities and Integrable Systems IV*, Abant İzzet Baysal University, Bolu, February 1-4, 2005.

◇ Organizer for *Mini-Workshop on Quantization, Dualities and Integrable Systems III*, Middle East Technical University, Ankara, February 13-14, 2004.

◇ *Mini-Workshop on Quantization, Dualities and Integrable Systems II*, Koç University, İstanbul, February 7-8, 2003.

◇ *Gürsey Memorial Conference II, M-Theory and Dualities*, İstanbul, June 19-23, 2000.

◇ *TASI '97, Supersymmetry, Supergravity and Supercolliders*, Boulder, CO, June 1997.

◇ *NATO ASI on Real and Complex Dynamical Systems*, Denmark, June 1993.

◇ *NATO ARW on Applications of Analytical and Geometrical Methods to Nonlinear Differential Equations*, England, July 1992.

◇ *Differential Geometry and Topology on 4-Manifolds*, Gökova, Turkey, June 1992.

Grants:

◇ TÜBİTAK-1001 (with N.S. Değer): *Supersymmetric Solutions of Three Dimensional Supergravities* (116F137), February 2017-2020.

◇ TÜBİTAK-1001 (with N.S. Değer): *3-Dimensional Gauged Supergravities* (113F034), September 2013-2016.

List of Publications (at INSPIRE-HEP):

1. “Consistent S^3 reductions of six-dimensional supergravity”

H. Samtleben and Ö. Sarioğlu.

arXiv:1907.08413 [hep-th]

DOI:10.1103/PhysRevD.100.086002

Phys. Rev. D **100**, 086002 (2019)

[INSPIRE-HEP entry](#)

2. “Circularly symmetric solutions of Minimal Massive Gravity at its merger point”

Ö. Sarioğlu.

arXiv:1901.09538 [gr-qc]

DOI:10.1088/1361-6382/ab28c4

Class. Quant. Grav. **36**, 145005 (2019)

[INSPIRE-HEP entry](#)

3. “Stationary Lifshitz Black Hole of New Massive Gravity”

Ö. Sarioğlu.

arXiv:1806.10811 [gr-qc]

DOI:10.1088/1361-6382/aaf444

Class. Quant. Grav. **36**, no. 1, 015015 (2019)

[INSPIRE-HEP entry](#)

4. “Supersymmetric solutions of $N=(1,1)$ general massive supergravity”

N. S. Deger, Z. Nazari and Ö. Sarioğlu.
arXiv:1803.06926 [hep-th]
DOI:10.1103/PhysRevD.97.106022
Phys. Rev. D **97**, no. 10, 106022 (2018)
[INSPIRE-HEP entry](#)

5. **“Kundt solutions of Minimal Massive 3D Gravity”**

N. S. Deger and Ö. Sarioğlu.
arXiv:1505.03387 [hep-th]
DOI:10.1103/PhysRevD.92.104015
Phys. Rev. D **92**, no. 10, 104015 (2015)
[INSPIRE-HEP entry](#)

6. **“All timelike supersymmetric solutions of three-dimensional half-maximal super-gravity”**

N. S. Deger, G. Moutsopoulos, H. Samtleben and Ö. Sarioğlu.
arXiv:1503.09146 [hep-th]
DOI:10.1007/JHEP06(2015)147
JHEP **1506**, 147 (2015)
[INSPIRE-HEP entry](#)

7. **“A supersymmetric reduction on the three-sphere”**

N. S. Deger, H. Samtleben, Ö. Sarioğlu and D. Van den Bleeken.
arXiv:1410.7168 [hep-th]
DOI:10.1016/j.nuclphysb.2014.11.014
Nucl. Phys. B **890**, 350 (2014)
[INSPIRE-HEP entry](#)

8. **“Stationary Lifshitz black holes of R^2 -corrected gravity theory”**

Ö. Sarioğlu.
arXiv:1109.4721 [hep-th]
DOI:10.1103/PhysRevD.84.127501
Phys. Rev. D **84**, 127501 (2011)
[INSPIRE-HEP entry](#)

9. **“On the thermodynamics of Lifshitz black holes”**

D. O. Devecioglu and Ö. Sarioğlu.
arXiv:1103.1993 [hep-th]
DOI:10.1103/PhysRevD.83.124041
Phys. Rev. D **83**, 124041 (2011)
[INSPIRE-HEP entry](#)

10. **“Conserved Killing charges of quadratic curvature gravity theories in arbitrary backgrounds”**
D. O. Devecioglu and Ö. Sarioğlu.
arXiv:1010.1711 [hep-th]
DOI:10.1103/PhysRevD.83.021503
Phys. Rev. D **83**, 021503 (2011)
[INSPIRE-HEP entry](#)
11. **“On The Supersymmetric Solutions of D=3 Half-maximal Supergravities”**
N. S. Deger, H. Samtleben and Ö. Sarioğlu.
arXiv:1003.3119 [hep-th]
DOI:10.1016/j.nuclphysb.2010.06.020
Nucl. Phys. B **840**, 29 (2010)
[INSPIRE-HEP entry](#)
12. **“Self-dual solutions of Yang-Mills theory on Euclidean AdS”**
Ö. Sarioğlu and B. Tekin.
arXiv:0903.3803 [hep-th]
DOI:10.1103/PhysRevD.79.104024
Phys. Rev. D **79**, 104024 (2009)
[INSPIRE-HEP entry](#)
13. **“A Note on cosmological Levi-Civita spacetimes in higher dimensions”**
Ö. Sarioğlu and B. Tekin.
arXiv:0901.1242 [gr-qc]
DOI:10.1103/PhysRevD.79.087502
Phys. Rev. D **79**, 087502 (2009)
[INSPIRE-HEP entry](#)
14. **“Comment on the new AdS universe”**
Ö. Sarioğlu and B. Tekin.
arXiv:0811.3683 [gr-qc]
DOI:10.1088/0264-9381/26/4/048001
Class. Quant. Grav. **26**, 048001 (2009)
[INSPIRE-HEP entry](#)
15. **“Finite mass gravitating Yang monopoles”**
H. Cebeci, Ö. Sarioğlu and B. Tekin.
arXiv:0809.0806 [hep-th]
DOI:10.1103/PhysRevD.78.125016
Phys. Rev. D **78**, 125016 (2008)
[INSPIRE-HEP entry](#)

16. **“Cotton flow”**
A. U. O. Kisisel, Ö. Sarioğlu and B. Tekin.
arXiv:0803.1603 [hep-th]
DOI:10.1088/0264-9381/25/16/165019
Class. Quant. Grav. **25**, 165019 (2008)
[INSPIRE-HEP entry](#)
17. **“Another proof of the positive energy theorem in gravity”**
Ö. Sarioğlu and B. Tekin.
arXiv:0709.0407 [gr-qc]
[INSPIRE-HEP entry](#)
18. **“Spherically symmetric solutions of Einstein + non-polynomial gravities”**
S. Deser, Ö. Sarioğlu and B. Tekin.
arXiv:0705.1669 [gr-qc]
DOI:10.1007/s10714-007-0508-1
Gen. Rel. Grav. **40**, 1 (2008)
[INSPIRE-HEP entry](#)
19. **“Gravitational charges of transverse asymptotically AdS spacetimes”**
H. Cebeci, Ö. Sarioğlu and B. Tekin.
hep-th/0611011
DOI:10.1103/PhysRevD.74.124021
Phys. Rev. D **74**, 124021 (2006)
[INSPIRE-HEP entry](#)
20. **“Topologically massive gravity as a Pais-Uhlenbeck oscillator”**
Ö. Sarioğlu and B. Tekin.
gr-qc/0608085
DOI:10.1088/0264-9381/23/24/023
Class. Quant. Grav. **23**, 7541 (2006)
[INSPIRE-HEP entry](#)
21. **“New Supersymmetric Solutions in N=2 Matter Coupled AdS(3) Supergravities”**
N. S. Deger and Ö. Sarioğlu.
hep-th/0605098
DOI:10.1088/1126-6708/2006/08/078
JHEP **0608**, 078 (2006)
[INSPIRE-HEP entry](#)
22. **“Negative mass solitons in gravity”**
H. Cebeci, Ö. Sarioğlu and B. Tekin.
hep-th/0602117

DOI:10.1103/PhysRevD.73.064020

Phys. Rev. D **73**, 064020 (2006)

[INSPIRE-HEP entry](#)

23. **“Closed timelike curves and geodesics of Godel-type metrics”**

R. J. Gleiser, M. Gurses, A. Karasu and Ö. Sarioğlu.

gr-qc/0512037

DOI:10.1088/0264-9381/23/7/025

Class. Quant. Grav. **23**, 2653 (2006)

[INSPIRE-HEP entry](#)

24. **“Mass and angular momentum of asymptotically ads or flat solutions in the topologically massive gravity”**

S. Olmez, Ö. Sarioğlu and B. Tekin.

gr-qc/0507003

DOI:10.1088/0264-9381/22/20/014

Class. Quant. Grav. **22**, 4355 (2005)

[INSPIRE-HEP entry](#)

25. **“Godel-type metrics in various dimensions II: Inclusion of a dilaton field”**

M. Gurses and Ö. Sarioğlu.

hep-th/0505268

DOI:10.1088/0264-9381/22/22/004

Class. Quant. Grav. **22**, 4699 (2005)

[INSPIRE-HEP entry](#)

26. **“Accelerated Levi-Civita-Bertotti-Robinson metric in D-dimensions”**

M. Gurses and Ö. Sarioğlu.

gr-qc/0502035

DOI:10.1007/s10714-005-0176-y

Gen. Rel. Grav. **37**, 2015 (2005)

[INSPIRE-HEP entry](#)

27. **“Supersymmetric strings and waves in $D = 3$, $N=2$ matter coupled gauged supergravities”**

N. S. Deger and Ö. Sarioğlu.

hep-th/0409169

DOI:10.1088/1126-6708/2004/12/039

JHEP **0412**, 039 (2004)

[INSPIRE-HEP entry](#)

28. **“Godel type of metrics in various dimensions”**

M. Gurses, A. Karasu and Ö. Sarioğlu.

hep-th/0312290
DOI:10.1088/0264-9381/22/9/003
Class. Quant. Grav. **22**, 1527 (2005)
[INSPIRE-HEP entry](#)

29. **“Some further properties of the accelerated Kerr-Schild metrics”**

M. Gurses and Ö. Sarioglu.
gr-qc/0308020
DOI:10.1023/B:GERG.0000010484.24510.6d
Gen. Rel. Grav. **36**, 403 (2004)
[INSPIRE-HEP entry](#)

30. **“Lienard-Wiechert potentials in even dimensions”**

M. Gurses and Ö. Sarioglu.
hep-th/0303078
DOI:10.1063/1.1613040
J. Math. Phys. **44**, 4672 (2003)
[INSPIRE-HEP entry](#)

31. **“Lienard-Wiechert potentials of a nonAbelian Yang-Mills charge”**

Ö. Sarioglu.
hep-th/0207227
DOI:10.1103/PhysRevD.66.085005
Phys. Rev. D **66**, 085005 (2002)
[INSPIRE-HEP entry](#)

32. **“Accelerated Born-Infeld metrics in Kerr-Schild geometry”**

M. Gurses and Ö. Sarioglu.
gr-qc/0207083
DOI:10.1088/0264-9381/20/2/308
Class. Quant. Grav. **20**, 351 (2003)
[INSPIRE-HEP entry](#)

33. **“Accelerated charge metrics in D dimensions”**

M. Gurses and Ö. Sarioglu.
gr-qc/0203097
DOI:10.1088/0264-9381/19/16/302
Class. Quant. Grav. **19**, 4249 (2002), Erratum: [Class. Quant. Grav. **20**, 1413 (2003)]
[INSPIRE-HEP entry](#)

34. **“Supersymmetric solutions to topologically massive gravity and black holes in three-dimensions”**

T. Dereli and Ö. Sarioglu.

DOI:10.1103/PhysRevD.64.027501

Phys. Rev. D **64**, 027501 (2001).

[INSPIRE-HEP entry](#)

35. **“Selfdual’ solutions of topologically massive gravity coupled with the Maxwell-Chern-Simons theory”**

T. Dereli and Ö. Sarioğlu.

gr-qc/0009090

DOI:10.1016/S0370-2693(00)01098-4

Phys. Lett. B **492**, 339 (2000)

[INSPIRE-HEP entry](#)

36. **“Topologically massive gravity and black holes in three-dimensions”**

T. Dereli and Ö. Sarioğlu.

gr-qc/0009082

[INSPIRE-HEP entry](#)

37. **“Duality / propagation properties of gauge theories and attempts at supersymmetry breaking in N=4 SYM”**

B. Ö. Sarioğlu.

UMI-99-59652

[INSPIRE-HEP entry](#)

38. **“Shock free wave propagation in gauge theories”**

J. G. McCarthy and Ö. Sarioğlu.

math-ph/9902004

DOI:10.1023/A:1003659520136

Int. J. Theor. Phys. **39**, 159 (2000)

BRX-TH-448

[INSPIRE-HEP entry](#)

39. **“‘Good propagation’ constraints on dual invariant actions in electrodynamics and on massless fields”**

S. Deser, J. G. McCarthy and Ö. Sarioğlu.

hep-th/9809153

DOI:10.1088/0264-9381/16/3/015

Class. Quant. Grav. **16**, 841 (1999)

BRX-TH-440

[INSPIRE-HEP entry](#)

40. **“Hamiltonian electric / magnetic duality and Lorentz invariance”**

S. Deser and Ö. Sarioğlu.

hep-th/9712067

DOI:10.1016/S0370-2693(98)00163-4

Phys. Lett. B **423**, 369 (1998)

BRX-TH-427

[INSPIRE-HEP entry](#)

41. “An integrable family of Monge-Ampere equations and their multi-Hamiltonian structure”

Y. Nutku and Ö. Sarioğlu.

DOI:10.1016/0375-9601(93)90277-7

Phys. Lett. A **173**, 270 (1993).

[INSPIRE-HEP entry](#)

Referee for the Following Journals:

Physical Review Letters, Physical Review **D**, Classical and Quantum Gravity, SIGMA, Physica Scripta, European Physical Journal C, Turkish Journal of Mathematics, Turkish Journal of Physics.

Books Translated (from English):

The Original Work:

James T. Cushing, *Philosophical Concepts in Physics, The Historical Relation between Philosophy and Scientific Theories*, (Cambridge: Cambridge University Press, 2000), ISBN: 0 521 57823 X (pbk.)

1) *Fizikte Felsefi Kavramlar, Felsefe ve Bilimsel Kuramlar Arasındaki Tarihsel İlişki*, Vol.1, (İstanbul: Sabancı University Press, 2003), ISBN: 975-8362-29-1.

2) *Fizikte Felsefi Kavramlar, Felsefe ve Bilimsel Kuramlar Arasındaki Tarihsel İlişki*, Vol.2, (İstanbul: Sabancı University Press, 2006), ISBN: 975-8362-57-7.

Ph. D. Theses Supervised:

1) Nejat Tevfik Yılmaz, *Dualisation of supergravity theories*, 2004. (supervised with Prof.Dr. Tekin Dereli)

2) Deniz Olgu Devocioğlu, *Anisotropic solutions for generalised holography*, 2016.

M. Sc. Theses Supervised:

1) Haldun Sevinçli, *Tunneling time models and ‘superluminality’*, 2002.

2) Mehmet Kavuk, *Gödel spacetime*, 2005.

3) Deniz Olgu Devocioğlu, *Conserved charges of quadratic curvature gravity theories in arbitrary backgrounds*, 2010.

4) Gökhan Alkaç, *Covariant symplectic structure and conserved charges of New Massive Gravity*, 2012.

5) Çağatay Menekay, *Killing family of tensors in classical gravitational theories*, 2013.

6) Ertan Sinan Şahin, *Second-order scalar-tensor field theories*, 2017.

7) Salman Eren Altun, *Knotted solutions of Maxwell equations*, 2019.

Courses Given at METU:

- 1) Phys 105, General Physics I
- 2) Phys 106, General Physics II
- 3) Phys 111, Physics I (Mechanics)
- 4) Phys 112, Physics II (Electricity and Magnetism)
- 5) Phys 209, Mathematical Methods in Physics I (for “special physics” and “regular” programs)
- 6) Phys 210, Mathematical Methods in Physics II (for “special physics” and “regular” programs)
- 7) Phys 311, Classical Mechanics (for special physics program)
- 8) Phys 331, Electromagnetic Theory I
- 9) Phys 400, Special Problems in Physics
- 10) Phys 415, Projects in Physics
- 11) Phys 416, Advanced Selected Problems in Physics
- 12) Phys 434, Mathematical Methods in Physics III
- 13) Phys 481, Special Relativity (former name: “Theory of Relativity I”)
- 14) Phys 482, General Relativity (former name: “Theory of Relativity II”)
- 15) Phys 491, Geometry and Topology in Physics I
- 16) Phys 493, Special Functions for Physicists
- 17) Phys 503, Methods of Mathematical Physics I
- 18) Phys 504, Methods of Mathematical Physics II
- 19) Phys 505, Electromagnetic Theory I
- 20) Phys 506, Electromagnetic Theory II
- 21) Math 260, Basic Linear Algebra