

CURRICULUM VITAE

PERSONAL INFORMATION

Name: Nihat Sadik Deger

Date and Place of Birth: February 6 1972, Ankara, Turkey

CONTACT INFORMATION

Address: Bogazici University

Department of Mathematics

Bebek, 34342

Istanbul-Turkey

Phone: +90 -212 -359 66 50

Fax: +90 -212 -287 71 73

e-mail: sadik.deger@boun.edu.tr

EDUCATION

1996-2001: Ph.D. in Theoretical High Energy Physics at

Texas A&M University. Supervisor: Prof. Ergin Sezgin

Dissertation Title: AdS/CFT Duality from the Supergravity Point of View

1994-1996: Graduate studies in Physics at Middle East Technical University,

Ankara, Turkey. Supervisor: Prof. Tekin Dereli

Topic: Electric-Magnetic Duality in String Theory

1990-1994 (January): B.Sc. in Physics (Special Program) and Mathematics

(Double Major) at Middle East Technical University, Ankara, Turkey.

EMPLOYMENTS

December 2009 - Present: Professor at Department of Mathematics,

Bogazici University, Istanbul, Turkey.

May 2006 - December 2009: Associate Professor at Department of

Mathematics, Bogazici University, Istanbul, Turkey.

October 2004 - May 2006: Assistant Professor at Department of Mathematics,

Bogazici University, Istanbul, Turkey.

2001-2004: Postdoctoral Researcher at Feza Gursey Institute, Istanbul, Turkey.

1996-2001: Teaching Assistant at Texas A&M University.

1994-1996: Teaching Assistant at Middle East Technical Un., Ankara, Turkey.

AWARDS

- Regular Associate (2017-2022) at Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy.
- Junior Science Award (2009) by the Scientific and Technological Research Council of Turkey (TUBITAK).
- Junior Associate (2006-2011) at Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy.
- Young Scientist Award (2006-2009) by Turkish Academy of Sciences.
- Bogazici University Junior Researcher Award (2004).
- TGC Sedat Simavi Natural Sciences Award (2003).

PROJECT GRANTS

- TUBITAK-1001 (Principal Investigator): Supersymmetric Solutions of Three Dimensional Supergravities, 2017-2020 (36 months).
- TUBITAK-1001 (Principal Investigator): 3-Dimensional Gauged Supergravities, 2013-2016 (36 months).

ADMINISTRATIVE DUTIES

- Director of Feza Gursey Center for Physics and Mathematics at Bogazici University (Since March 2015).
- Member of Honorary Academic Titles Committee (Since February 2019).
- Advisory Board Member of TUBITAK Mathematics and Physics Research Support Group (MFAG) (August 2018-2021).
- Department Chair (July 2010 - February 2016).
- Member of Student Dormitories Committee (August 2007-2010).
- Undergraduate Students' Advisor (September 2006-2018).

STUDENTS and POSTDOCTORAL FELLOWS

- Ceren Ayse Deral, M.Sc. August 2021, Thesis: Asymptotically Anti-de Sitter Spacetimes in Three Dimensions.
- Metin Bardavid, M.Sc. August 2021, Thesis: Non-linear Sigma Models in D=2+1 Dimensional Spacetime.
- Nicolo Petri, Postdoctoral Fellow, 2018-2019.
- George Moutsopoulos, Postdoctoral Fellow, 2014-2016.
- Jumageldi Charyyev, M.Sc. August 2016, Thesis: Homogeneous Spacetime Solutions of Minimal Massive Gravity.
- Ummuhan Demir, M.Sc. August 2015, Thesis: Classification of Calibrations on \mathbb{R}^n for $n \leq 7$.
- Mert Besken, M.Sc. August 2013, Thesis: Intersections of S-branes with Waves and Monopoles.
- Murat Guner, M.Sc. June 2013, Thesis: Generalized Complex Geometry and Nilmanifolds.
- Gunes Senel, M.Sc. June 2013, Thesis: Construction of Metrics on Sasaki-Einstein Manifolds.
- Bora Ferlencez, M.Sc. September 2008, Thesis: Classification of Non-Symmetric Riemannian Manifolds Using Holonomy Groups.

TEACHING

- Math 101: Calculus I
- Math 102: Calculus II
- Math 132: Multivariable Calculus
- Math 162: Discrete Mathematics
- Math 201: Matrix Theory
- Math 202: Differential Equations
- Math 231: Calculus III
- Math 474: General Relativity
- Math 475: Differential Geometry
- Math 478: Groups and Geometries
- Math 575: Differentiable Manifolds
- Math 576: Riemannian Geometry
- Math 577: Complex Manifolds
- Math 58L: Lie Groups and Lie Algebras
- Math 58S: Supersym. and Supergravity

SERVICE

- Turkish node coordinator of ICTP Network NT-04 (Black holes, Supergravity, Strings and Integrable Systems) since 2017.
- Management Committee Member of COST (European Cooperation in Science and Tech.) action MP1210: The String Theory Universe (2014-2017).
- Referee for: Classical and Quantum Gravity, The European Physical Journal C, Journal of Physics A: Mathematical and Theoretical, Physics Letters B, Turkish Journal of Mathematics, Turkish Journal of Physics.
- Reviewer for: AMS Mathematical Reviews, Zentralblatt MATH.

MEETINGS (CO-)ORGANIZED

- “A Mini Workshop on String Dualities”, IMBM, Istanbul, January 2022.
- “Recent Dev. in Supergravity Theories”, IMBM, Istanbul, December 2019.
- “Recent Advances in Quantum Gravity”, IMBM, Istanbul, January 2018.
- “Supersymmetry and Applications”, Feza Gursey Center, January 2017.
- “Recent Dev. in Symmetries and (Super)grav. Th.”, IMBM, June 2016.
- “Higher Spins and Holography”, IMBM, Istanbul, June 2015.
- “Recent Developments in Supergravity Theories”, IMBM, Istanbul, June 2014.
- “Open Questions in an Open Universe”, IMBM, Istanbul, August 2013.
- “Strings, Branes and Supergravity”, Koc University, Istanbul, August 2011.
- “String Theory”, IMBM, Istanbul, February 2011.
- “Gauged Supergravities”, IMBM, Istanbul, February 2010.
- “A Short Course on Supergravity”, IMBM, Istanbul, February 2009.
- “An Introductory Course on AdS/CFT Duality”, Feza Gursey Inst., June 2008.
- “A Mini Workshop on Effective Field and Gravity Theories”, IMBM, June 2007.
- “A Symposium on Supersymmetry and Gravitation”, Bogazici Un., Feb. 2006.

SHORT VISITS

- AEI, Potsdam, September 2022, February-July 2020, March-June 2016.
- INFN, Padova, 31 July-6 August 2022, 24-30 October 2019, 6-8 March 2018.
- ICTP, Trieste, July-September 2022, Feb.-April 2018 as a Regular Associate.
- ESI, Vienna, 31 Jan.-28 Feb. & 22 May-5 June 2022 (ESI Res.in Teams Progr.).
- ENS de Lyon, August-October 2021(with French Embassy Research Fellowship).
- ESI, Vienna, 11 August-15 September 2019 (ESI Research in Teams Programme).
- ENS de Lyon, 21-30 May 2019, 20-31 Aug.2018, 7-10 Nov.2013, 14-18 Oct.2009.
- IPM, Tehran, 19-23 June 2018.
- IHES, Paris, 16 April-6 May 2018.
- APCTP, Pohang, South Korea, 12-23 December 2017.
- Un. of Groningen, 19-21 October 2017.
- ASCR, Prague, 9-13 November 2016.
- GGI, Florence, 4-16 September 2016.
- IHP, Paris, 14-25 September 2015.
- CERN Theory Division, Geneva, 3-13 November 2011.
- ICTP, Trieste, February-May in 2011, 2009 and 2007 as a Junior Associate.

MEETINGS ATTENDED ABROAD

- “The Sound of Symmetry (HermannFest)”, AEI, Potsdam, September 2022.
- “Carroll Workshop”, Vienna, February 2022.
- “Iberian Strings”, Barcelona, January 2019.
- “Spring School on Superstring and Related Topics”, ICTP, Trieste
March 1996, 2002, 2003, 2004, 2007, 2009, 2011, 2018.
- “The Spanish-Portuguese Relativity Meeting”
 - Malaga, September 2017.
 - Benasque, September 2013.
- “Supergravity 2017”, Padova, May 2017.
- “Recent Trends in String Theory and Related Topics”, IPM, Tehran, May 2017.
- “The String Theory Universe”
 - Milano-Bicocca University, February 2017.
 - KU Leuven, September 2015
 - Johannes Gutenberg University, Mainz, September 2014.
 - Albert Einstein Center, Bern, September 2013.
- “Number Theory and Physics”, IHP, Paris, May 2016.
- “Workshop on String Theory, Particle Physics and Cosmology”
Galileo Galilei Institute, Florence, October 2015.
- “Planck 2014”, Paris, May 2014.
- “Branes and Black Holes”
King’s College, London, May 2012.
- “Mathematical Aspects of String and M-theory”
Isaac Newton Institute, Cambridge, January 2012.
- “Strings”, CERN, Geneva, August 2008.
- “Pre-Strings”, Zurich, August 2008.
- “Strings”, Madrid, June 2007.
- “Pre-Strings”, Granada, June 2007.
- “School on Geometry and String Theory”, A Clay Mathematics
Institute Workshop at the Newton Institute, Cambridge, April 2002.
- “Workshop on Strings, Branes and Field Theory”
Benasque Center for Science, Spain, July 2001.
- “TASI, Strings, Branes and Extra Dimensions”
University of Colorado, Boulder, June 2001.
- “Connecting Fundamental Physics and Cosmology”
Isaac Newton Institute, Cambridge, August 1999.
- “Progress in String Theory and M-Theory”
Nato Advanced Institute, Cargese, France, May 1999.

LIST of PUBLICATIONS (Available at : [Inspire](#))

1. Generalized 11D Supergravity Equations from tri-vector Deformations

I. Bakhmatov, A. Catal-Ozer, N.S. Deger, K. Gubarev, E.T. Musaev, [arXiv:2209.01423](#).

2. Minimal Massive Supergravity

N.S. Deger, M. Geiller, J. Rosseel, H. Samtleben, Phys.Rev.Lett. 129 (2022) 17, 171601, [arXiv:2206.00675](#).

3. A note on the third way Consistent deformation of Yang-Mills theory

N.S. Deger, H. Samtleben, Phys.Lett.B 833 (2022) 137275, [arXiv:2205.15578](#).

4. Generalizing Eleven-Dimensional Supergravity

I. Bakhmatov, A. Catal-Ozer, N.S. Deger, K. Gubarev, E.T. Musaev, Phys.Rev. D105 (2022) 8, L081904, [arXiv:2203.03372](#).

5. A Review of Third Way Consistent Theories

N.S. Deger, J.Phys.Conf.Ser. 2191 (2022) 6, 012008, [arXiv:2109.04339](#).

6. Novel 3D Supersymmetric Massive Yang-Mills Theory

N.S. Deger, J. Rosseel, Phys.Rev. D104 (2021) 8, L081701, [arXiv:2105.13300](#).

7. The Third Way to Interacting p-form Theories

M. Broccoli, N.S. Deger, S. Theisen Phys.Rev.Lett. 127 (2021) 9, 091603, [arXiv:2103.13243](#).

8. Spontaneously Broken 3d Hietarinta/Maxwell Chern-Simons Theory and Minimal Massive Gravity

D. Chernyavsky, N.S. Deger, D. Sorokin, EPJC 80 (2020) 6, 556, [arXiv:2002.07592](#).

9. Exotic Massive 3D Gravities from Truncation

H.R. Afshar, N.S. Deger, JHEP 1911 (2019) 145, [arXiv:1909.06305](#).

10. $N=(8,0)$ AdS Vacua of Three-dimensional Supergravity

N.S. Deger, C. Eloy, H. Samtleben, JHEP 1910 (2019) 145, [arXiv:1907.12764](#).

11. Tri-vector Deformations in D=11 Supergravity

I. Bakhmatov, N.S. Deger, E.T. Musaev, E. O Colgain, M.M. Sheikh-Jabbari JHEP 1908 (2019) 126, [arXiv:1906.09052](#).

12. Supersymmetric Dyonic Strings in 6-Dimensions from 3-Dimensions

N.S. Deger, N. Petri, D. Van den Bleeken, JHEP 1904 (2019) 168, [arXiv:1902.05325](#).

- 13. Supersymmetric Solutions of $N = (1,1)$ General Massive Supergravity**
N.S. Deger, Z.Nazari, O.Sarioglu, Phys.Rev. D97 (2018) 106022, [arXiv:1803.06926](#).
- 14. Critical $N=(1,1)$ General Massive Supergravity**
N.S. Deger, G. Moutsopoulos, J. Rosseel, JHEP 1804 (2018) 105, [arXiv:1802.03957](#).
- 15. Calibrated Entanglement Entropy**
I. Bakhmatov, N.S. Deger, J. Gutowski, E. O Colgain, H. Yavartanoo
JHEP 1707 (2017) 117, [arXiv:1705.08319](#).
- 16. Homogeneous Solutions of Minimal Massive 3D Gravity**
J. Charyyev, N.S. Deger, Phys.Rev. D96 (2017) 026024, [arXiv:1703.06871](#).
- 17. Time-Dependent AdS Backgrounds from S-Branes**
N.S. Deger, Phys.Lett. B762 (2016) 209, [arXiv:1606.00674](#).
- 18. Supersymmetric solutions of $N=(2,0)$ Topologically Massive Supergravity**
N.S.Deger, G.Moutsopoulos
Class.Quant.Grav. 33 (2016) 155006, [arXiv:1602.07263](#).
- 19. Kundt solutions of Minimal Massive 3D Gravity**
N.S. Deger, O. Sarioglu, Phys.Rev. D92 (2015) 104015, [arXiv:1505.03387](#).
- 20. All Timelike Supersymmetric Solutions of Three-dimensional Half-maximal Supergravity**
N.S. Deger, G. Moutsopoulos, H. Samtleben, O. Sarioglu
JHEP 1506 (2015) 147, [arXiv:1503.09146](#).
- 21. Intersections of S-branes with Waves and Monopoles**
M. Besken, N.S. Deger, Nucl.Phys. B894 (2015) 328, [arXiv:1501.03902](#).
- 22. A Supersymmetric Reduction on the Three-sphere**
N.S. Deger, H. Samtleben, O. Sarioglu, D. Van den Bleeken
Nucl.Phys. B890 (2015) 350, [arXiv:1410.7168](#).
- 23. Supersymmetric Warped AdS in Extended Topologically Massive Supergravity**
N.S. Deger, A. Kaya, H. Samtleben, E. Sezgin
Nucl.Phys. B884 (2014) 106, [arXiv:1311.4583](#).
- 24. Deformations of Cosmological Solutions of $D=11$ Supergravity**
N.S. Deger, A. Kaya, Phys.Rev. D84 (2011) 046005, [arXiv:1104.4019](#).
- 25. On the Supersymmetric Solutions of $D=3$ Half-maximal Supergravities**
N.S. Deger, H. Samtleben, O. Sarioglu, Nucl.Phys. B840 (2010) 29, [arXiv:1003.3119](#).

- 26. Beta, Dipole and Noncommutative Deformations of M-theory Backgrounds with One or More Parameters**
A. Catal-Ozer, N.S. Deger
Class.Quant.Grav. 26 (2009) 245015, [arXiv:0904.0629](#).
- 27. Chern-Simons S-Brane Solutions in M-theory and Accelerating Cosmologies**
N.S. Deger, A. Kaya, JHEP 0904 (2009) 109, [arXiv:0903.1186](#).
- 28. A Note on Intersections of S-branes with p-branes**
N.S. Deger, Phys.Rev. D75 (2007) 126002, [hep-th/0703082](#).
- 29. New Supersymmetric Solutions in N=2 Matter Coupled AdS_3 Supergravities**
N.S. Deger, O. Sarioglu, JHEP 0608 (2006) 078, [hep-th/0605098](#).
- 30. Supersymmetric Strings and Waves in D=3, N=2 Matter Coupled Gauged Supergravities**
N.S. Deger, O. Sarioglu, JHEP 0412 (2004) 039, [hep-th/0409169](#).
- 31. Multi-Spin Giants**
S. Arapoglu, N.S. Deger, A. Kaya, E. Sezgin, P. Sundell
Phys.Rev. D69 (2004) 106006, [hep-th/0312191](#).
- 32. A Note on Supergravity Solutions for Partially Localized Intersecting Branes**
S. Arapoglu, N.S. Deger, A. Kaya
Phys.Lett. B578 (2004) 203, [hep-th/0306040](#).
- 33. Non-Standard Intersections of S-Branes in D=11 Supergravity**
N.S. Deger, JHEP 0304 (2003) 034, [hep-th/0303232](#).
- 34. Renormalization Group Flows from D=3, N=2 Matter Coupled Gauged Supergravities**
N.S. Deger, JHEP 0211 (2002) 025, [hep-th/0209188](#).
- 35. Intersecting S-Brane Solutions of D=11 Supergravity**
N.S. Deger, A. Kaya, JHEP 0207 (2002) 038, [hep-th/0206057](#).
- 36. World-Volume Description of M2-branes Ending on an M5-brane**
N.S. Deger, A. Kaya, Phys.Lett. B538 (2002) 164, [hep-th/0203239](#).
- 37. (2,0) Chern-Simons Supergravity Plus Matter Near the Boundary of AdS_3**
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell, Y. Tani
Nucl.Phys. B604 (2001) 343, [hep-th/0012139](#).

38. AdS/CFT and Randall-Sundrum Model Without a Brane
N.S. Deger, A. Kaya, JHEP 0105 (2001) 030, [hep-th/0010141](#).

39. Matter Coupled AdS₃ Supergravities and Their Black Strings
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell
Nucl.Phys. B573 (2000) 275, [hep-th/9908089](#).

40. Spectrum of D=6, N=4b Supergravity on AdS₃ × S³
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell
Nucl.Phys. B536 (1998) 110, [hep-th/9804166](#).