

# CURRICULUM VITAE

## PERSONAL INFORMATION

**Name:** Nihat Sadik Deger

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

## CONTACT INFORMATION

**Address:** Bogazici University

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## 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 Gursev Center for Theoretical Physics and Mathematics at Bogazici University (Since March 2015).
- Member of Honorary Academic Titles Committee (Since February 2019).
- Department Chair (July 2010 - February 2016).
- Member of Student Dormitories Committee (August 2007-2010).
- Undergraduate Students' Advisor (September 2006-2018).

## STUDENTS and POSTDOCTORAL FELLOWS

- 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 Ferlengez, 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 58S: Supersym. and Supergravity

## SPECIAL LECTURES

- Lectures on “General Relativity” at IARS 2009, Feza Gursey Institute, Istanbul, August 2009.
- Lectures on “AdS/dS Spaces”, “Supersymmetry” and “S-Branes” at “Research Semester on Gravitation and Cosmology” (Organized by Feza Gursey Institute), Istanbul, Turkey, June-July 2003.
- Lectures on “AdS/CFT Duality” at “School on String Theory” (Organized by Feza Gursey Inst. and ICTP), Istanbul, Turkey, September 2001.

## MEETINGS (CO-)ORGANIZED

- “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, February-July 2020, March-June 2016.
- INFN, Padua, 24-30 October 2019, 6-8 March 2018.
- ESI, Vienna, 11 August-15 September 2019.
- 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.
- ICTP, Trieste, February-April 2018 as a Regular Associate.
- 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.

## 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 Technology) action MP1210: The String Theory Universe (2014-2017).
- Referee for: Classical and Quantum Gravity, The European Physical Journal C, Turkish Journal of Mathematics, Turkish Journal of Physics.
- Reviewer for: AMS Mathematical Reviews, Zentralblatt MATH.

## MEETINGS ATTENDED ABROAD

- “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

**1. 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.

**2. Exotic Massive 3D Gravities from Truncation**

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

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

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

**4. 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.

**5. 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.

**6. Supersymmetric Solutions of  $N = (1,1)$  General Massive Supergravity**

N.S. Deger, Z.Nazari, O.Sarioglu, Phys.Rev. D97 (2018) 106022, arXiv:1803.06926.

**7. Critical  $N=(1,1)$  General Massive Supergravity**

N.S. Deger, G. Moutsopoulos, J. Rosseel, JHEP 1804 (2018) 105, arXiv:1802.03957.

**8. Calibrated Entanglement Entropy**

I. Bakhmatov, N.S. Deger, J. Gutowski, E. O Colgain, H. Yavartanoo JHEP 1707 (2017) 117, arXiv:1705.08319.

**9. Homogeneous Solutions of Minimal Massive 3D Gravity**

J. Charyyev, N.S. Deger, Phys.Rev. D96 (2017) 026024, arXiv:1703.06871.

**10. Time-Dependent AdS Backgrounds from S-Branes**

N.S. Deger, Phys.Lett. B762 (2016) 209, arXiv:1606.00674.

**11. Supersymmetric solutions of  $N=(2,0)$  Topologically Massive Supergravity**

N.S.Deger, G.Moutsopoulos  
Class.Quant.Grav. 33 (2016) 155006, arXiv:1602.07263.

**12. Kundt solutions of Minimal Massive 3D Gravity**

N.S. Deger, O. Sarioglu, Phys.Rev. D92 (2015) 104015, arXiv:1505.03387.

**13. 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.

- 14. Intersections of S-branes with Waves and Monopoles**  
M. Besken, N.S. Deger, Nucl.Phys. B894 (2015) 328, arXiv:1501.03902.
- 15. 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.
- 16. 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.
- 17. Deformations of Cosmological Solutions of D=11 Supergravity**  
N.S. Deger, A. Kaya, Phys.Rev. D84 (2011) 046005, arXiv:1104.4019.
- 18. 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.
- 19. 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.
- 20. Chern-Simons S-Brane Solutions in M-theory and Accelerating Cosmologies**  
N.S. Deger, A. Kaya, JHEP 0904 (2009) 109, arXiv:0903.1186.
- 21. A Note on Intersections of S-branes with p-branes**  
N.S. Deger, Phys.Rev. D75 (2007) 126002, hep-th/0703082.
- 22. New Supersymmetric Solutions in N=2 Matter Coupled  $AdS_3$  Supergravities**  
N.S. Deger, O. Sarioglu, JHEP 0608 (2006) 078, hep-th/0605098.
- 23. 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.
- 24. Multi-Spin Giants**  
S. Arapoglu, N.S. Deger, A. Kaya, E. Sezgin, P. Sundell  
Phys.Rev. D69 (2004) 106006, hep-th/0312191.
- 25. 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.

- 26. Non-Standard Intersections of S-Branes in D=11 Supergravity**  
N.S. Deger, JHEP 0304 (2003) 034, hep-th/0303232.
- 27. Renormalization Group Flows from D=3, N=2 Matter Coupled Gauged Supergravities**  
N.S. Deger, JHEP 0211 (2002) 025, hep-th/0209188.
- 28. Intersecting S-Brane Solutions of D=11 Supergravity**  
N.S. Deger, A. Kaya, JHEP 0207 (2002) 038, hep-th/0206057.
- 29. World-Volume Description of M2-branes Ending on an M5-brane**  
N.S. Deger, A. Kaya, Phys.Lett. B538 (2002) 164, hep-th/0203239.
- 30. (2,0) Chern-Simons Supergravity Plus Matter Near the Boundary of AdS<sub>3</sub>**  
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell, Y. Tanii  
Nucl.Phys. B604 (2001) 343, hep-th/0012139.
- 31. AdS/CFT and Randall-Sundrum Model Without a Brane**  
N.S. Deger, A. Kaya, JHEP 0105 (2001) 030, hep-th/0010141.
- 32. Matter Coupled AdS<sub>3</sub> Supergravities and Their Black Strings**  
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell  
Nucl.Phys. B573 (2000) 275, hep-th/9908089.
- 33. Spectrum of D=6, N=4b Supergravity on AdS<sub>3</sub> × S<sup>3</sup>**  
N.S. Deger, A. Kaya, E. Sezgin, P. Sundell  
Nucl.Phys. B536 (1998) 110, hep-th/9804166.