

## Curriculum Vitae

1. **Name:** SANDIP P. TRIVEDI

2. **Mailing Address:**

Professor

Department of Theoretical Physics

Tata Institute of Fundamental Research

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3. **Date of Birth:** April 5, 1963

4. **Nationality:** Indian

4. **Educational Qualifications:**

M.Sc., Physics (Integrated), June 1985

Indian Institute of Technology, Kanpur

Ph.D., Theoretical Physics, June 1990

California Institute of Technology, Pasadena, California

Advisor: Professor John Preskill

5(a). **Professional Training:**

Post-Doctoral Research Associate, August 1990 to August 1992

Institute for Advanced Study

Princeton, New Jersey, U.S.A.

John A. McCone Research Fellow, September 1992 to August 1994

Department of Physics, California Institute of Technology

Pasadena California, U.S.A.

## 5(b). **Employment**

Associate Scientist, September 1994 to February 1999  
Department of Theoretical Physics  
Fermi National Accelerator Laboratory  
Batavia, Illinois, U.S.A.

Reader, February 1999 to February 2002  
Department of Theoretical Physics  
Tata Institute of Fundamental Research, Mumbai.

Associate Professor, February 2002 to August 2006  
Department of Theoretical Physics  
Tata Institute of Fundamental Research, Mumbai.

Professor, August 2006 -2012  
Department of Theoretical Physics  
Tata Institute of Fundamental Research, Mumbai.

Senior Professor, January 2013-  
Department of Theoretical Physics  
Tata Institute of Fundamental Research, Mumbai.

## 6. **Awards**

- J. C. Bose Fellowship, Department of Science and Technology, Government of India, 2012.
- Distinguished Alumnus Award, IIT Kanpur, 2010.
- Infosys Prize in Physical Sciences, 2010.
- Shanti Swarup Bhatnagar Award in The Physical Sciences, CSIR, Government of India, 2005
- Swarnajayanti Fellowship 2002, Department of Science and Technology Government of India.
- John A. McCone Post-Doctoral Research Fellow (Caltech, 1992-94)
- National Talent Scholarship, Government of India, 1980-85.

## 7. **Professional Recognition**

- Fellow, Indian Academy of Sciences, 2005-
- Fellow, Indian National Science Academy, 2011-
- Editor, Annals of Physics, 2004-2006.

8 (a). **Invited Lecture Courses :**

“The Attractor Mechanism in Black Holes and Black Branes”, ICTP, Trieste, March 2011.

“Flux Compactifications”, Advanced String School, Puri, Oct. 2010.

“Flux Compactifications”, Asian School on String Theory, Japan, January 2008.

“Supersymmetry Breaking”, “From Strings To LHC -II”, Bangalore, India, 2007.

“Non-supersymmetric Attractors”, School on Attractor Mechanism, Rome, August, 2007.

“KKLT Compactifications”, “From Strings to LHC -I”, Goa, India, 2006.

“deSitter Space in String Theory”, KIAS, Korea, 2005.

Invited Lectures on “Flux Compactifications”, at the National Workshop on String Theory, IIT Kanpur, India, December 2003.

Invited Lecturer for a Course on “Flux Compactifications and deSitter Vacua” at the March School for String Theory at the International Center for Theoretical Physics, March-April, 2003.

Lectures on “Branes and Large Extra Dimensions”, XVI SERC School on Theoretical High Energy Physics held at the Harish-Chandra Research Institute, Allahabad, February–March, 2001

8(b). **Invited Talks :**

Workshop on Primordial Cosmology, KITP, April, 2013.

Conference in Honour of John Preskill, March 2013.

Simons Symposium on Quantum Entanglement, March Feb. 2013.

Indian Strings Meeting, Puri, December 2012

Invited Talk, Discussion Meeting in String Theory, ICTS, Bangalore, June 2012.

Invited Talk, Workshop on “Branes and Black Holes”, London, May 2012.

Invited Talk, Indo-Israeli String Theory Meeting, Jerusalem Feb. 2012.

Invited Talk, Conference on Cold Matter, Hot Nuclei and Black Holes, ASICTP Trieste, August 2011.

Invited Talk, Strongly Correlated Systems and Gauge/Gravity Correspondence, Aspen, USA, February 2011.

Invited Talk, Conference on “Promordial Features and Non-Gaussianity” HRI, Allahabad, December 2010.

Invited Lecture, Chandrasekhar Discussion meeting, Bangalore, December, 2010.

Invited Talk, DAE Symposium, “String Theory and Phenomenology”, December, 2010.

Invited Plenary Talk, “ExDip2010”, KEK, Japan, November 2010.

Colloquium, Harvard University, October 2010.

Colloquium Ohio State University, October 2010.

Invited Talk, ICTS Inaguration Meeting, “Science Without Boundaries”, December, 2009.

Invited Plenary Talk, SUSY09, Boston, USA, June, 2009.

Invited Talk, Solvay Conference, Brussels, Belgium, April 2008.

Invited Plenary Talk, SUSY08, Korea, 2008.

Invited Talk, Conference on String Theory, KEK, Japan, January 2008.

Invited Talk, Workshop on Black Holes, Attractors and Topological Field Theory, Paris, 2007.

Invited Plenary Talk, Lepton-Photon 07, Korea, 2007.

Invited Talk, “Strings 2007”, Madrid, Spain, 2007.

Invited Plenary Talk, “Supersymmetry 06”, Irvine, U.S.A., June 2006.

Invited Talk, “Workshop on Black Holes and Topological Strings”, Munich, April 2006.

Invited Talk, “Einstein Millenium Conference”, Puri, December 2005.

Invited Talk, ”Strings 05”, I.I.T. Kanpur, October, 2005

Invited Plenary Talk, “Superstring Phenomenology 05”, Munich, Germany, June 2005.

Invited Talk, “Third Regional Meeting on String Theory”, Crete Greece, June 2005.

Invited Talk, ”Pascos 05”, March 05, Korea, 2005.

Invited Plenary Talk at the 37th Anhrenshoop Conference, Berlin, Germany, August 2004.

Invited Talk at the Conference on Superstring Phenomenology, Ann Arbor, Michigan, USA, August, 2004.

Invited Talk at the Workshop “Strings at CERN”, CERN, July 2004.

Invited Talk at the International Conference on String Theory, “ Strings 2004”, Paris, June 2004.

Invited Talk at the Conference of “International Workshop on Superstrings and Cosmology”, KITP, Santa Barbara, U.S.A. October 2003.

Chaired Session on Aspects of Compactifications, at the International Strings Conference, Strings 2003, Kyoto Japan. July 2003.

Invited Talk, International Workshop on “Cosmological Perturbations on the Brane”, DAMTP, Cambridge, U.K. July 2003.

Invited Lectures at the Second Regional Crete Conference on Superstrings, Crete, Greece. May 2003.

Invited Plenary talk at the IX International Conference on Particles Strings and Cosmology, January 2003 TIFR, Mumbai, India.

Invited Talk at the Workshop on String Theory, Newton Institute of Mathematical Sciences, Cambridge, U.K., February, 2002.

Invited Talk at the International Conference on Strings, Strings 2001, TIFR, Mumbai, India, January, 2001.

Invited Talk at the National Workshop on String Theory, Bangalore, India, December 1999

Invited Conference at the International Workshop on High Energy Physics and Phenomenology, WHEPP, Chennai, India, December 1999

Invited Talk at the Conference on Black Holes and String Theory, ICTP, Trieste, July 1999.

Invited Talk, International Conference on Supersymmetries in Physics (SUSY 99), Fermi National Accelerator Laboratory, Batavia, Illinois, June 1999.

Invited Talk at the International Conference on Particles, Strings and Cosmology, Pascos 98, Northeastern University, Boston, U.S.A., March 1999.

Invited Talk, workshop on “Dynamical Supersymmetry Breaking”, Weizmann Institute of Science, Israel, 1997.

Invited Talk on, “Gauge Mediated Supersymmetry Breaking”, Conference on Very Large Hadron Collider, Fermilab, U.S.A., 1996

Invited Talk, Conference on Black Hole Physics, University of California Santa Barbara, U.S.A., April 1992.

## 9. Complete List of Publications

1. **AdS plane waves and entanglement entropy** K. Narayan, T. Takayanagi and S. P. Trivedi, JHEP **1304**, 051 (2013)
2. **Extremal Horizons with Reduced Symmetry: Hyperscaling Violation, Stripes, and a Classification for the Homogeneous Case** N. Iizuka, S. Kachru, N. Kundu, P. Narayan, N. Sircar, S. P. Trivedi and H. Wang, JHEP **1303**, 126 (2013)
3. **CMB FRom CFT I** Mata, S. Raju and S. Trivedi, JHEP **1307**, 015 (2013)
4. **Entangled Dilaton Dyons** N. Kundu, P. Narayan, N. Sircar and S. P. Trivedi, JHEP **1303**, 155 (2013)
5. **Supersymmetric Chern-Simons Theories with Vector Matter** S. Jain, S. P. Trivedi, S. R. Wadia and S. Yokoyama, JHEP **1210**, 194 (2012)
6. **Chern-Simons Theory with Vector Fermion Matter** S. Giombi, S. Minwalla, S. Prakash, S. P. Trivedi, S. R. Wadia and X. Yina Eur. Phys. J. C **72**, 2112 (2012)
7. **Bianchi Attractors: A Classification of Extremal Black Brane Geometries** N. Iizuka, S. Kachru, N. Kundu, P. Narayan, N. Sircar and S. P. Trivedi, JHEP **2007**, 193 (2012)
8. **Holographic Fermi and Non-Fermi Liquids with Transitions in Dilaton Gravity** N. Iizuka, N. Kundu, P. Narayan and S. P. Trivedi, JHEP **1201**, 094 (2012)
9. **Axions as Quintessence in String Theory** S. Panda, Y. Sumitomo and S. P. Trivedi, Phys. Rev. D **83** 083506 (2011).
10. **Holography of Dyonic Dilaton Black Holes** K. Goldstein, N. Iizuka, S. Kachru, S. Prakash, S. P. Trivedi and A. Westphal, JHEP **1010**, 027 (2010).
11. **On The Stability Of Non-Supersymmetric AdS Vacua** P. Narayan and S. P. Trivedi, JHEP **1007**, 089 (2010)
12. **Holography of Charged Dilaton Black Holes** K. Goldstein, S. Kachru, S. Prakash and S. P. Trivedi, JHEP **1008**, 078 (2010)
13. **Stable Non-Supersymmetric Throats in String Theory**, S. Kachru, D. Simic and S. P. Trivedi, JHEP 1005:067,2010.
14. **Gauge Theories with Time Dependent Couplings and their Cosmological Duals**, A. Awad, S. R. Das, S. Nampuri, K. Narayan and S. P. Trivedi, Phys. Rev. D **79**, 046004 (2009).
15. **Forced Fluid Dynamics from Gravity**, S. Bhattacharyya, R. Loganayagam, S. Minwalla, S. Nampuri, S. P. Trivedi and S. R. Wadia, JHEP **0902**, 018 (2009)

16. **Duality Symmetry and The Cardy Limit**, S. Nampuri, P. K. Tripathy and S. P. Trivedi, *JHEP* **0807**, 072 (2008).
17. **Gauge theory duals of cosmological backgrounds and their energy momentum tensors**, A. Awad, S. Das, K. Narayan and S. P. Trivedi, *Phys. Rev. D* **77**, 046008 (2008).
18. **On The Stability of Non-Supersymmetric Attractors in String Theory**, S. Nampuri, P. K. Tripathy and S. P. Trivedi, *JHEP* **0708**, 054 (2007).
19. **Black hole microstates and attractor without supersymmetry**, A. Dabholkar, A. Sen and S. P. Trivedi, *JHEP* **0701**, 096 (2007).
20. **Cosmologies with Null Singularities and their Gauge Theory Duals**, S. Das, J. Michelson, K. Narayan, S. P. Trivedi, *Phys. Rev D* **75**, 026002 (2007).
21. **Rotating Attractors**, D. Astefanesei, K. Goldstein, R. P. Jena, A. Sen and S. P. Trivedi, *JHEP* **0610**, 058 (2006).
22. **Time dependent cosmologies and their duals**, S. R. Das, J. Michelson, K. Narayan and S. P. Trivedi, *Phys Rev D* **74**, 026002 (2006).
23. **A C-function for non-supersymmetric attractors**, K. Goldstein, R. P. Jena, G. Mandal and S. P. Trivedi, *JHEP* **0602**, 053 (2006) [arXiv:hep-th/0512138].
24. **Non-supersymmetric attractors in string theory**, P. K. Tripathy and S. P. Trivedi, *JHEP* **0603**, 022 (2006) [arXiv:hep-th/0511117].
25. **Non-supersymmetric attractors**, K. Goldstein, N. Iizuka, R. P. Jena and S. P. Trivedi, *Phys. Rev. D* **72**, 124021 (2005) [arXiv:hep-th/0507096].
26. **D3 brane action and fermion zero modes in presence of background flux**, P. K. Tripathy and S. P. Trivedi, *JHEP* **0506**, 066 (2005) [arXiv:hep-th/0503072].
27. **Gaugino condensation and nonperturbative superpotentials in flux compactifications**, L. Gorlich, S. Kachru, P. K. Tripathy and S. P. Trivedi, *JHEP* **0412**, 074 (2004) [arXiv:hep-th/0407130].
28. **An Inflationary Model in String Theory**, N. Iizuka, S. P. Trivedi, *Phys.Rev. D* **70**:043519,2004.
29. **Flux Compactifications on Calabi-Yau Threefolds**, A. Giryavets, S. Kachru, P. K. Tripathy and S. P. Trivedi, *JHEP* **0404**, 003 (2004) [arXiv:hep-th/0312104].
30. **Towards Inflation in String Theory** S. Kachru, R. Kallosh A. Linde, J. Maldacena, L. McAllister and S. P. Trivedi, *JCAP* **0310**:013, 2003.
31. **deSitter Vacua in String Theory**, S. Kachru, R. Kallosh, A. Linde, S. P. Trivedi, *Phys Rev D* **68** 046005 (2003).

32. **Compactification With Flux on K3 and Tori**, P. K. Tripathy and S. P. Trivedi, **JHEP**, 0303:028,2003,
33. **New Supersymmetric String Compactifications**, S. Kachru, M. B. Schulz, P. K. Tripathy, S. P. Trivedi, **JHEP** 0303:061,2003.
34. **Supersymmetry Changing Bubbles in String Theory**, S. Kachru, X. Liu, M. B. Schulz and S. P. Trivedi, **JHEP** 05:014, 2003,
35. **Moduli Stabilisation From Fluxes in a Simple IIB Orientifold**, S. Kachru, M. B. Schulz and S. P. Trivedi, **JHEP** 0310:007 (2003).
36. **Supergravity Coupling to Noncommutative Branes, Open Wilson Lines and Generalised Star Products**, S. R. Das and S. P. Trivedi, **JHEP** 0102:046,2001,
37. **Magnetic Moments of Branes and Giant Gravitons** , S. Das, S. P. Trivedi and S. Vaidya, **JHEP**, 0102:046; hep-th/0008203.
38. **Fuzzy Cosets And Their Gravity Duals** , S. P. Trivedi and S. Vaidya, **JHEP**, 0009:041,2000, hep-th/0007011.
39. **Supergravity With Self Dual B Fields And Instantons In Noncommutative Gauge Theory** **JHEP**, S. R. Das, S. Kalyana Rama and S. P. Trivedi, 0003:004,2000; hep-th/9911137.
40. **Discrete Flux As Quantum Hair**, A. Dabholkar and S. P. Trivedi, **JHEP** 9910:033,1999 ; hep-th/9908077.
41. **The Coulomb Branch of Gauge Theory from Rotating Branes**, P. Kraus, F. Larsen and S. P. Trivedi, **JHEP**, 9903, 003, 1999; hep-th/9811120.
42. **Holographic Probes of Anti-De Sitter Space-Times**, V. Balasubramanian, P. Kraus, A. Lawrence and S. P. Trivedi, **Phys. Rev. D** 59, 104021, 1999; hep-th/9808017.
43. **Branes with GUTS and Supersymmetry Breaking**, J. Lykken, E. Poppitz and S. P. Trivedi, **Nucl. Phys. B** 543, 105, 1999; hep-th/9806080.
44. **Three Brane Action and The Correspondence Between  $N = 4$  Yang Mills Theory and Anti-De Sitter Space**, S. R. Das and S. P. Trivedi, **Phys. Lett. B** 445, 142, 1998; hep-th/9804149.
45. **M(ore) on Chiral Gauge Theories from D-Branes**, J. Lykken, E. Poppitz and S. P. Trivedi, **Nucl. Phys. B** 520, 51, 1998; hep-th/9712193.



46. **Chiral Gauge Theories from D-Branes** J. Lykken, E. Poppitz and S. P. Trivedi, **Phys. Lett. B** 416, 286, 1998; hep-th/9708134.
47. **Some Remarks on Gauge Mediated Supersymmetry Breaking**, E. Poppitz and S. P. Trivedi, **Phys. Lett. B** 401, 38, 1997; hep-ph/970324.
48. **New Models of Gauge and Gravity Mediated Supersymmetry breaking**, E. Poppitz and S. P. Trivedi, **Phys. Rev. D** 55, 5508, 1997; hep-ph/9609529.
49. **Supersymmetry Breaking and Duality in  $SU(N) \times SU(N-M)$  Theories**, E. Poppitz, Y. Shadmi and S. P. Trivedi, **Phys. Lett. B** 388, 561, 1996; hep-th/9606184.
50. **Duality and Exact results in Product Group Theories**. E. Poppitz, Y. Shadmi and S. P. Trivedi, **Nucl. Phys. B** 480, 125 1996; hep-th/9605113.
51. **Some Examples of Chiral Moduli Spaces and Dynamical Supersymmetry Breaking**, E. Poppitz and S. P. Trivedi, **Phys. Lett. B** 365, 125, 1996; hep-th/9507169.
52. **Gluon Fragmentation into Polarised Charmonium**, P. Cho, S. P. Trivedi and M. B. Wise, **Phys. Rev. D** 51, 2039, 1995; hep-ph/9408352.
53. **Dynamical Supersymmetry Breaking**, E. Poppitz and S. P. Trivedi, **Annual Reviews of Nuclear and Particle Science**, Vol 48, 1998, edited by C. Quigg, V. Luth and P. Paul; hep-th/ 9803107.
54. **Black Hole Thermodynamics and Information Loss in Two Dimensions**, T. M. Fiola, J. Preskill, A. Strominger and S. P. Trivedi, **Phys. Rev. D** 50, 3987, 1994; hep-th/9403137.
55. **Strong Decays Of Strange Heavy P-wave Mesons.**, P. Cho and S. P. Trivedi, **Phys. Rev. D** 50, 381 (1994).
56. **Information Consumption by Reissner-Nordstrom Black Holes**, A. Strominger and S. P. Trivedi, **Phys. Rev. D** 48, 5778 (1993).
57. **Semiclassical Extremal Black Holes**, S. P. Trivedi, **Phys. Rev. D** 47, 4233 (1993).
58. **Dual Dilaton Dyons**, A. Shapere, S. P. Trivedi and F. Wilczek, **Mod. Phys. Lett. A** 6, 2677 (1991).

59. **Limitations on the Statistical Description of Black Holes** , J. Preskill, P. Schwarz, A. Shapere, S. P. Trivedi and F. Wilczek, **Mod. Phys. Lett.** A6, 2353 (1991).
60. **Cosmology and Broken Discrete Symmetry** , J. Preskill, S. P. Trivedi, F. Wilczek and M. B. Wise, **Nucl. Phys.** B363, 207 (1991).
61. **Effective Lagrangian for the Electric Dipole Moment of the Neutron**, G. Boyd, A. K. Gupta, S. P. Trivedi and M. B. Wise, **Phys. Letts.** B 241, 584 (1990).
62. **Random Surfaces in the Conformal Gauge** , A. Gupta, S. P. Trivedi and M. B. Wise, **Nucl. Phys.** B340, 475 (1990).
63. **Wormholes in Spacetime and  $\theta_{QCD}$** , J. Preskill, S. P. Trivedi and M. B. Wise, **Phys. Letts.** B 223, 26 (1989).
64. **Operator Product Coefficients in Non-Standard  $SU(2)$  - Wess - Zumino - Witten models**, M. R. Douglas and S. P. Trivedi, **Nucl. Phys.** B320, 461 (1989).