

## Curriculum Vitae

1. Name: SANDIP P. TRIVEDI
2. Mailing Address: Director and Senior Professor  
Tata Institute of Fundamental Research  
Dr. Homi Bhabha Road, Colaba  
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E-mail: [sandip@tifr.res.in](mailto:sandip@tifr.res.in)
3. Date of Birth: April 5, 1963
4. Nationality: Indian
5. Educational Qualifications: M.Sc., Physics (Integrated), June 1985  
Indian Institute of Technology, Kanpur  
  
Ph.D., Theoretical Physics, June 1990  
California Institute of Technology, Pasadena, USA  
Advisor: Professor John Preskill

### 6(a). Professional Training:

Post-Doctoral Research Associate, August 1990 to August 1992  
Institute for Advanced Study, Princeton, New Jersey, USA

John A. McCone Research Fellow, September 1992 to August 1994  
Department of Physics, California Institute of Technology, Pasadena, California, USA

### 6(b). Employment:

Associate Scientist, September 1994 to February 1999  
Department of Theoretical Physics, Fermi National Accelerator Laboratory, Batavia, Illinois, USA

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

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

Professor, August 2006 to December 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

Director, January 2015 to  
Tata Institute of Fundamental Research, Mumbai

## 7. Awards:

- TWAS Prize for Physics, 2015
- J.C. Bose Fellowship, Department of Science & Technology, Govt. of India, 2012
- Distinguished Alumnus Award, IIT Kanpur, 2010
- Infosys Prize in Physical Sciences, 2010
- Shanti Swarup Bhatnagar Award in Physical Sciences, CSIR, Govt. of India, 2005
- Swarnajayanti Fellowship, Department of Science & Technology, Govt. of India, 2002
- John A. McCone Post-Doctoral Research Fellow, Caltech, 1992-94
- National Talent Scholarship, Government of India, 1980-85

## 8. Professional Recognition:

- Fellow, Indian Academy of Sciences, Bangalore (2006)
- Fellow, Indian National Science Academy, New Delhi (2012)
- Editor, Annals of Physics, 2004-2006

## 9(a). Course Director / Invited Lecturer:

- “Asian Strings School”, ICTS, TIFR, Puri, India, October 2013
- “The Attractor Mechanism in Black Holes and Black Branes”. ICTP, Trieste, March 2011
- “Flux Compactifications”, Advanced String School, Puri, October 2010
- “Flux Compactifications”, Asian School on String Theory, Japan, January 2008
- “Supersymmetry Breaking – From Strings to LHC-II”, Bangalore, India, 2007
- “Non-supersymmetric Attractos”, 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 Lecture for a Course on “Flux Compactifications and deSitter Vacua”, at the March School for String Theory at the International Center for Theoretical Physics, April 2003
- Lectures on “Branes and Large Extra dimensions”, XVI SERC School on Theoretical High Energy Physics held at the HRI, Allahabad, February-March 2001.

## 9(b). Invited Talks:

- Conference on “Quantum Field Theory, String Theory and Condensed Matter Physics”. Crete, September 2014
- Workshop on Primordial Cosmology, KITP, April 2013
- Conference in Honour of John Preskill, March 2013
- Simons Symposium on Quantum Entanglement, February-March 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, February 2012
- Invited Talk Conference on Cold Matter, Not 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 “Primordial 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 Inauguration 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, USA, June 2006
- Invited Talk, “Workshop on Black Holes and Topological Strings”, Munich, April 2006
- Invited Talk, “Einstein Millennium Conference”, Puri, December 2005
- Invited Talk, “Strings 05”, IIT 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”, Korea, March 2005
- Invited Plenary Talk, “37<sup>th</sup> Anshroop Conference”. Berlin, Germany, August 2004
- Invited Talk, “Conference on Superstring Phenomenology”, Ann Arbor, Michigan, USA, August 2004
- Invited Talk, Workshop “Strings at CERN”, CERN, July 2004
- Invited Talk, International Conference on String Theory “Strings 2004”, Paris, June 2004
- Invited Talk, Conference on “International Workshop on Superstrings and Cosmology”, KITP, Santa Barbara, USA, 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, UK, July 2003
- Invited Lectures at the Second Regional Crete Conference on Superstrings, Crete, Greece, May 2003
- Invited Plenary Talk, “IX International Conference on Particles, Strings and Cosmology, TIFR, Mumbai, India, January 2003
- Invited Talk at the Workshop on Strings Theory, Newton Institute of Mathematical Sciences, Cambridge, UK, February 2002
- Invited Talk at the International Conference on Strings, “Strings 2001”, TIFR, Mumbai, India, January 2001
- Invited Talk at the National Workshop on Strings Theory, Bangalore, India, December 1999
- Invited Talk 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, USA, March 1999
- Invited Talk, Workshop on “Dynamical Supersymmetry Breaking”, Weizmann Institute of Science, Israel, 1997.
- Invited Talk, “Gauge Mediated Supersymmetry Breaking”, Conference on Very Large Hadron Collider, Fermilab, USA 1996
- Invited Talk, Conference on Black Hole Physics, University of California, Santa Barbara, USA, April 1992.

## 10. Complete List of Publications:

1. Aspects of Entanglement Entropy for Gauge Theories, Ronak M. Soni and S.P. Trivedi, JHEP 1601, 136 (2016)
2. Ward Identities for Scale and Special Conformal Transformations in Inflation Nilay Kundu, Ashish Shukla and S.P. Trivedi, JHEP 1601, 046 (2016)
3. The Shear Viscosity in Anisotropic Phases, Sachin Jain, Rickmoy Samanta and S.P. Trivedi, JHEP 1510, 028 (2015)
4. On the Entanglement Entropy for Gauge Theories, Sandip Ghosh, Ronak M. Soni and S.P. Trivedi, JHEP 1509, 069 (2015)
5. Constraints from Conformal Symmetry on the Three Point Scalar Correlator in Inflation, Nilay Kundu, Ashish Shukla and S.P. Trivedi, JHEP 1504, 061 (2015)
6. A Strongly Coupled Anisotropic Fluid From Dilation Driven Holography, S. Jain, N. Kundu, K. Sen, A. Sinha and S.P. Trivedi, JHEP 1501, 005 (2015)
7. Conformal Invariance and the Four Point Scalar Correlator in Slow-Roll Inflation, A. Ghosh, N. Kundu, S. Raju and S.P. Trivedi, JHEP 1407, 011 (2014)
8. Interpolating from Bianchi Attractors to Lifshitz and AdS Spacetimes, S. Kachru, N. Kundu, A. Saha, R. Samanta and S.P. Trivedi, [arXiv:1310.5740]
9. AdS plane waves and entanglement entropy, K. Narayan, T. Takayanagi and S.P. Trivedi, JHEP 1304, 051 (2013)
10. 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)
11. CMB FROM CFT, I. Mata, S. Raju and S.P. Trivedi, JHEP 1307, 015 (2013)
12. Entangled Dilaton Dyons, N. Kundu, P. Narayan, N. Sircar and S.P. Trivedi, JHEP 1303, 155 (2013)
13. Supersymmetric Chern-Simons Theories with Vector Matter, S. Jain, S.P. Trivedi, S.R. Wadia and S. Yokoyama, JHEP 1210, 194 (2012)
14. 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)
15. 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)
16. 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)
17. Axions as Quintessence in String Theory, S. Panda, Y. Sumitomo and S. P. Trivedi, Phys. Rev. D83 083506 (2011)
18. Holography of Dyonically Charged Black Holes, K. Goldstein, N. Iizuka, S. Kachru, S. Prakash, S.P. Trivedi and A. Westphal, JHEP 1010, 027 (2010)
19. On The Stability Of Non-Supersymmetric AdS Vacua, P. Narayan and S. P. Trivedi, JHEP 1007, 089 (2010)
20. Holography of Charged Dilaton Black Holes, K. Goldstein, S. Kachru, S. Prakash and S. P. Trivedi, JHEP 1008, 078 (2010)
21. Stable Non-Supersymmetric Throats in String Theory, S. Kachru, D. Simic and S. P. Trivedi, JHEP 1005:067 (2010)
22. 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. D79, 046004 (2009)
23. Forced Fluid Dynamics from Gravity, S. Bhattacharyya, R. Loganayagam, S. Minwalla, S. Nampuri, S.P. Trivedi and S.R. Wadia, JHEP 0902, 018 (2009)

24. Duality Symmetry and The Cardy Limit,  
S. Nampuri, P. K. Tripathy and S. P. Trivedi, JHEP 0807, 072 (2008)
25. Gauge theory duals of cosmological backgrounds and their energy momentum tensors,  
A. Awad, S. Das, K. Narayan and S.P. Trivedi, Phys. Rev. D77, 046008 (2008)
26. On The Stability of Non-Supersymmetric Attractors in String Theory,  
S. Nampuri, P. K. Tripathy and S. P. Trivedi, JHEP 0708, 054 (2007)
27. Black hole microstates and attractor without supersymmetry,  
A. Dabholkar, A. Sen and S. P. Trivedi, JHEP 0701, 096 (2007)
28. Cosmologies with Null Singularities and their Gauge Theory Duals,  
S. Das, J. Michelson, K. Narayan, S. P. Trivedi, Phys Rev D75, 026002 (2007)
29. Rotating Attractors,  
D.Astefanesei, K.Goldstein, R.P.Jena, A.Sen and S.P.Trivedi, JHEP 0610, 058 (2006)
30. Time dependent cosmologies and their duals,  
S.R. Das, J. Michelson, K. Narayan and S.P. Trivedi, Phys Rev D74, 026002 (2006)
31. A C-function for non-supersymmetric attractors,  
K. Goldstein, R.P. Jena, G. Mandal and S.P. Trivedi, JHEP 0602, 053 (2006)
32. Non-supersymmetric attractors in string theory,  
P. K. Tripathy and S.P. Trivedi, JHEP 0603, 022 (2006)
33. Non-supersymmetric attractors,  
K. Goldstein, N. Iizuka, R.P. Jena and S.P. Trivedi, Phys. Rev. D72, 124021 (2005)
34. D3 brane action and fermion zero modes in presence of background flux,  
P.K. Tripathy and S.P. Trivedi, JHEP 0506, 066 (2005)
35. Gaugino condensation and nonperturbative superpotentials in flux compactifications,  
L. Gorlich, S. Kachru, P.K. Tripathy and S.P. Trivedi, JHEP 0412, 074 (2004)
36. An Inflationary Model in String Theory,  
N. Iizuka, S.P. Trivedi, Phys.Rev. D70:043519, 2004
37. Flux Compactifications on Calabi-Yau Threefolds,  
A. Giryavets, S. Kachru, P.K. Tripathy and S.P. Trivedi, JHEP 0404, 003 (2004)
38. Towards Inflation in String Theory,  
S. Kachru, R. Kallosh A. Linde, J. Maldacena, L. McAllister and S.P. Trivedi, JCAP 0310:013, 2003
39. deSitter Vacua in String Theory,  
S. Kachru, R. Kallosh, A. Linde, S.P. Trivedi, Phys. Rev. D68 046005 (2003)
40. Compactification With Flux on K3 and Tori,  
P.K. Tripathy and S.P. Trivedi, JHEP, 0303:028, (2003)
41. New Supersymmetric String Compactifications,  
S. Kachru, M.B. Schulz, P.K. Tripathy, S.P. Trivedi, JHEP 0303:061, 2003
42. Supersymmetry Changing Bubbles in String Theory,  
S. Kachru, X. Liu, M.B. Schulz and S.P. Trivedi, JHEP 05:014, (2003)
43. Moduli Stabilisation From Fluxes in a Simple IIB Orientifold,  
S. Kachru, M.B. Schulz and S.P. Trivedi, JHEP 0310:007 (2003)
44. Supergravity Coupling to Noncommutative Branes, Open Wilson Lines and Generalised Star Products,  
S.R. Das and S.P. Trivedi, JHEP 0102:046, (2001)
45. Magnetic Moments of Branes and Giant Gravitons,  
S. Das, S.P. Trivedi and S. Vaidya, JHEP, 0102:046; hep-th/0008203
46. Fuzzy Cosets And Their Gravity Duals,  
S.P. Trivedi and S. Vaidya, JHEP, 0009:041, 2000, hep-th/0007011
47. 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

48. Discrete Flux As Quantum Hair,  
A. Dabholkar and S.P. Trivedi, JHEP 9910:033, 1999; hep-th/9908077
49. The Coulomb Branch of Gauge Theory from Rotating Branes,  
P. Kraus, F. Larsen and S.P. Trivedi, JHEP, 9903, 003, 1999; hep-th/9811120
50. Holographic Probes of Anti-De Sitter Space-Times,  
V. Balasubramanian, P. Kraus, A. Lawrence and S.P. Trivedi, Phys. Rev. D59, 104021, 1999;  
hep-th/9808017
51. Branes with GUTS and Supersymmetry Breaking,  
J. Lykken, E. Poppitz and S.P. Trivedi, Nucl.Phys. B 543, 105, 1999; hep-th/9806080
52. Three Brane Action and The Correspondence Between N=4 Yang Mills Theory and Anti-DeSitter  
Space,  
S.R. Das and S.P. Trivedi, Phys. Lett. B 445, 142, 1998; hep-th/9804149
53. M(ore) on Chiral Gauge Theories from D-Branes,  
J. Lykken, E. Poppitz and S.P. Trivedi, Nucl. Phys. B520, 51, 1998; hep-th/9712193
54. Chiral Gauge Theories from D-Branes,  
J. Lykken, E. Poppitz and S.P. Trivedi, Phys. Lett. B416, 286, 1998; hep-th/9708134
55. Some Remarks on Gauge Mediated Supersymmetry Breaking,  
E. Poppitz and S.P. Trivedi, Phys. Lett. B401, 38, 1997; hep-ph/970324
56. New Models of Gauge and Gravity Mediated Supersymmetry breaking,  
E. Poppitz and S.P. Trivedi, Phys. Rev. D55, 5508, 1997; hep-ph/9609529
57. Supersymmetry Breaking and Duality in SU(N)XSU(N-M) Theories,  
E. Poppitz, Y. Shadmi and S.P. Trivedi, Phys. Lett. B388, 561, 1996; hep-th/9606184
58. Duality and Exact results in Product Group Theories,  
E. Poppitz, Y. Shadmi and S.P. Trivedi, Nucl.Phys. B480, 125 1996; hep-th/9605113
59. Some Examples of Chiral Moduli Spaces and Dynamical Supersymmetry Breaking,  
E. Poppitz and S.P. Trivedi, Phys. Lett. B365, 125, 1996; hep- th/9507169
60. Gluon Frgmentation into Polarised Charmonium,  
P. Cho, S.P. Trivedi and M.B. Wise, Phys. Rev. D51, 2039, 1995; hep-ph/9408352
61. Dynamical Supersymmetry Breaking,  
E. Poppitz and S.P. Trivedi, Annual Re- views of Nuclear and Particle Science, Vol 48, 1998,  
edited by C. Quigg, V. Luth and P. Paul; hep-th/ 9803107
62. Black Hole Thermodynamics and Information Loss in Two Dimensions,  
T.M. Fiola, J. Preskill, A. Strominger and S.P. Trivedi, Phys. Rev. D50, 3987, 1994; hep-  
th/9403137
63. Strong Decays of Strange Heavy P-wave Mesons,  
P. Cho and S. P. Trivedi, Phys. Rev. D50, 381 (1994)
64. Information Consumption by Reissner-Nordstrom Black Holes,  
A. Strominger and S.P. Trivedi, Phys. Rev. D48, 5778 (1993)
65. Semiclassical Extremal Black Holes,  
S.P. Trivedi, Phys. Rev. D47, 4233 (1993)
66. Dual Dilaton Dyons,  
A. Shapere, S.P. Trivedi and F. Wilczek, Mod. Phys. Lett. A6, 2677 (1991)
67. 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)
68. Cosmology and Broken Discrete Symmetry,  
J. Preskill, S.P. Trivedi, F. Wilczek and M.B. Wise, Nucl. Phys. B363, 207 (1991)
69. Effective Lagrangian for the Electric Dipole Moment of the Neutron,  
G. Boyd, A.K. Gupta, S.P. Trivedi and M.B. Wise, Phys. Letts. B241, 584 (1990)

70. Random Surfaces in the Conformal Gauge,  
A. Gupta, S.P. Trivedi and M.B. Wise, Nucl. Phys. B340, 475 (1990)
71. Wormholes in Spacetime and  $\theta$ QCD,  
J. Preskill, S.P. Trivedi and M.B. Wise, Phys. Letts. B 223, 26 (1989)
72. Operator Product Coefficients in Non-Standard SU(2) - Wess-Zumino-Witten models,  
M.R. Douglas and S.P. Trivedi, Nucl. Phys. B320, 461 (1989)