

Curriculum Vitae

Name : Spenta R. Wadia

Institution : International Centre for Theoretical Sciences (ICTS-TIFR),
Tata Institute of Fundamental Research,
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Current Position

- Aug. 2015 – : Infosys Homi Bhabha Chair Professor, International Centre for Theoretical Sciences (ICTS-TIFR) Bangalore; Emeritus Professor, Tata Institute of Fundamental Research

Appointments:

- Oct. 2007 – July 2015: Founding Director, International Centre for Theoretical Sciences (ICTS-TIFR), Tata Institute of Fundamental Research, Bangalore, India
- Aug. 2008 – July 2015 Distinguished Professor, Tata Institute of Fundamental Research, Mumbai, India
- Oct. 1982 – July 2015: Member of Natural Sciences Faculty, Tata Institute of Fundamental Research, Mumbai, India
- Aug. 1980 – May 1982: Staff Scientist, University of Chicago, USA
- Aug. 1978 – July 1980: Postdoctoral fellow, Enrico Fermi Institute, University of Chicago, USA; mentors: Yoichiro Nambu and Leo Kadanoff

Education:

- Doctor of Philosophy, City University of New York, 1978; mentor: Bunji Sakita
- Master of Science, Indian Institute of Technology, Kanpur, 1973
- Bachelor of Science, St. Xavier's College, University of Bombay, 1971

Awards and Honours:

- KITP Simons Distinguished Scientist, 2018-19
- J. C. Bose National Fellow, Govt of India 2006-2011; 2011-16
- TIFR Alumni Association Excellence Award 2016
- Distinguished Alumnus, St. Xavier's College, Bombay University, 2009
- TWAS (The World Academy of Sciences) Physics Prize, 2004
- Steven Weinberg Prize of ICTP (International Centre for Theoretical Physics, Trieste, Italy) 1995

Fellowship of Professional Societies:

- Fellow, TWAS (The World Academy of Sciences), elected 2006
- Fellow, National Academy of Sciences, Allahabad, India, elected 2000
- Fellow, New York Academy of Sciences, New York, USA, elected 1997
- Fellow, Indian National Science Academy, Delhi, India, elected 1997
- Fellow, Indian Academy of Sciences, Bangalore, India, elected 1992

Synergistic Activities :

- Member of the International Science Council (ISC) of ICTP-AP, affiliated to the University of Chinese Academy of Sciences (UCAS) 2018-
- Member, International Advisory Committee (IAC) of the International Institute of Physics (IIP) in Natal, Brazil, 2017-
- Member, Science Council of Asia Pacific Centre for Theoretical Physics (APCTP), S. Korea, 2010-2018
- Member, Jury Panel, Infosys Science Foundation Prize for Physical Sciences, 2015-2017
- Chair, Sectional Committee for Physics, Indian National Science Academy, New Delhi, 2017-
- Program Advisory Committee, IAS Nanyang Technological University, Singapore 2009-2018
- Editor, Asian Journal of Mathematics, International Press, Boston, 2015-
- Editorial Committee, Asia Pacific Physics Newsletter (APPN), World Scientific, 2016-

- Member Advisory Board, Asia Pacific Mathematics Newsletter, World Scientific, 2010-
- Member, Commission on Mathematical Physics (C-18), International Union of Pure and Applied Physics (IUPAP), 1997-1999 and 1999-2002
- Council Service, Indian Academy of Sciences, Bangalore, 2013-2015
- Editor, European Journal of Physics C, 2012-2015

Visiting positions on sabbatical leave from TIFR:

- Member, Institute for Advanced Study, Princeton, New Jersey, USA, 1990-92
- Scientific Associate, Theory Division, CERN, Geneva, Switzerland, 1996-97
- Scientific Associate, Theory Division, CERN, Geneva, Switzerland, 2003-04

Publications 2012-

1. **“Gravitational collapse in SYK models and Choptuik-like phenomenon”**
A. Dhar, A. Gaikwad, L. K. Joshi, G. Mandal and S. R. Wadia.
arXiv:1812.03979 [hep-th]
2. **“Gravitational collapse in SYK models and Choptuik-like phenomenon”**
A. Dhar, A. Gaikwad, L. K. Joshi, G. Mandal and S. R. Wadia.
arXiv:1812.03979 [hep-th]
3. **“The Science and Legacy of Richard Phillips Feynman”**
A. Dhar, A. D. Patel and S. R. Wadia.
arXiv:1810.07409 [physics.hist-ph]
To appear in Physics News (Indian Physics Association), November 2018.
4. **“Holographic dual to charged SYK from 3D Gravity and Chern-Simons”**
A. Gaikwad, L. K. Joshi, G. Mandal and S. R. Wadia.
arXiv:1802.07746 [hep-th]
5. **The Scientific Legacy of Stephen Hawking (1942-2018),**
R. Gopakumar and S. R. Wadia
ICTS Newsletter, 2018 (Volume 4, Issue 1, Page 11)
6. **“Coadjoint orbits of Virasoro group and two-dimensional quantum gravity dual to SYK/tensor-models”**
G. Mandal, P. Nayak and S. R. Wadia.
arXiv:1702.04266 [hep-th]
DOI: 10.1007/JHEP11(2017)046
JHEP 1711 (2017) 046

7. **“ChernSimons theories with fundamental matter: A brief review of large N results including FermiBose duality and the S-matrix”**
S. R. Wadia.
DOI:10.1142/S0217751X16300520
Int. J. Mod. Phys. A **31**, no. 32, 1630052 (2016).
8. **“Unitarity, Crossing Symmetry and Duality of the S-matrix in large N Chern-Simons theories with fundamental matter”**
S. Jain, M. Mandlik, S. Minwalla, T. Takimi, S. R. Wadia and S. Yokoyama.
arXiv:1404.6373 [hep-th]
DOI:10.1007/JHEP04(2015)129
JHEP **1504**, 129 (2015)
9. **“Phases of large N vector Chern-Simons theories on $S^2 \times S^1$ ”**
S. Jain, S. Minwalla, T. Sharma, T. Takimi, S. R. Wadia and S. Yokoyama.
arXiv:1301.6169 [hep-th]
DOI:10.1007/JHEP09(2013)009
JHEP **1309**, 009 (2013)
10. **“A Study of $U(N)$ Lattice Gauge Theory in 2-dimensions”**
S. R. Wadia.
arXiv:1212.2906 [hep-th]
11. **“Supersymmetric Chern-Simons Theories with Vector Matter”**
S. Jain, S. P. Trivedi, S. R. Wadia and S. Yokoyama.
arXiv:1207.4750 [hep-th]
DOI:10.1007/JHEP10(2012)194
JHEP **1210**, 194 (2012)
12. **“Chern-Simons Theory with Vector Fermion Matter”**
S. Giombi, S. Minwalla, S. Prakash, S. P. Trivedi, S. R. Wadia and X. Yin.
arXiv:1110.4386 [hep-th]
DOI:10.1140/epjc/s10052-012-2112-0
Eur. Phys. J. C **72**, 2112 (2012)

Selected Invited Talks 2012-

- **Space-time and Gravity: From Newton to Hawking and Beyond**, ICTS Einstein Lecture, Assam University, Silchar, 8 October 2018.
- **Gravitational Collapse in the SYK Model**, Black Holes, Quantum Information and Space-time Reconstruction, CERN, Geneva, 23 August 2018.
- **Quantum Gravity in 2-dims and the Sachdev-Ye-Kitaev Model**, Quantum Spacetime Seminar, TIFR-Mumbai, 28 August 2017.

- **SYK/Tensor Models and 2-dim Quantum Gravity**, String Theory and Quantum Gravity, Monte Verita, Ascona, 5 June 2017.
- **The End of Space-time and Beyond**, ICTS Einstein Lecture, Christ University, Bangalore, 2 December, 2016.
- **Eyes and Ears on the Universe: Radio and Gravitational Wave Astronomy**, an introduction to a special session of the TWAS annual meeting in Kigali, Rwanda, 16 November 2016.
- **The S-matrix in Chern-Simons theories with fundamental matter**, Quantum Field Theory, String Theory and Beyond, Hebrew University of Jerusalem, Israel, 28 February, 2016.
- **100 Years of General Relativity: Albert Einstein's Revolution in Physics**, Ruia College, University of Bombay, Mumbai, 30 November 2015
- **String Theory and the Hidden Structure of Spacetime**, TeDX talk at St Xavier's College, Mumbai, 8 February 2015
- **The End of Space-Time and Beyond**, IIT-Bombay, Foundation Day Lecture, 10 March 2014.
- **Fermion-Boson Duality in 2+1 dim large N Gauge Theories**, 1st Symposium of Institute of Basic Science, Seoul, S. Korea, 23 January 2014
- **Level-Rank Duality in Chern-Simons + (Vector) Matter CFT in the Large N limit**, Great Lakes Meeting, USA, 17 May 2013.
- **Raja Ramana Lecture in Physics: Solving Quantum Field Theory using Black Holes in one higher dimension**, JNCASR, 30 September 2012
- **Solving Chern-Simons Theory with Vector Matter** Isaac Newton Institute, University of Cambridge, May 2012
- **Development of Research in India: Broad Framework, National Policy**, Dialogue on Research Excellence Framework, Planning Commission, Govt of India February 2012