

## CURRICULUM VITAE

Name	<b>Vardarajan Suneeta</b>
Present Affiliation (since July 2010)	Associate Professor, The Indian Institute of Science Education and Research (IISER) Pune.
Present Address	IISER Pune, Dr. Homi Bhabha Road, Pashan, Pune 411008. INDIA.
Telephone : Office	+91-20-2590-8067.
Fax	+91-2-2589-9790.
Electronic address	<b>suneeta@iiserpune.ac.in</b>

### Previous positions

Tenure-track Assistant Professor, University of Alberta.

Fellow, Dept. of Mathematics and Statistics, Relativity Group,  
University of New Brunswick.

Fellow of the Pacific Institute for the Mathematical Sciences (PIMS)  
at the University of Alberta with Dr. Don Page.

Fellow of the Alexander von Humboldt Foundation at  
The University of Munich (LMU), Germany  
in Lehrstuhl Mukhanov.

### Academic Grants, Fellowships and Awards

- University Faculty Award from Natural Sciences and Engineering Research Council of Canada (**NSERC**) in 2008.
- Discovery Grant from **NSERC**.
- Start-up Grant, U. of Alberta.
- Fellowship of the Pacific Institute for the Mathematical Sciences (<http://www.pims.math.ca/scientific/postdoctoral>).

- Fellowship of the Alexander von Humboldt Foundation, Germany. (<http://www.humboldt-foundation.de>).
- Merit scholarship, Indian Institute of Technology, Madras.
- Mohan Katyal prize at St.Stephen's College, University of Delhi.

Educational Qualifications

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Degree	Institution	Year
Ph.D (Some aspects of black holes in anti-deSitter space)	Inst.of Math.Sciences(IMSc) (Chennai, India) Degree awarded	2002
M.Sc. (Physics)	The Indian Institute of Technology, Madras, India	1995
B.Sc.(Hons) Physics	St.Stephen's College, University of Delhi, India	1990-93

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Professional activities (partial list)

**Chair** (with K G Arun) for the Classical Gravity-Gravitational waves workshop at the International Conference on Gravitation and Cosmology, ICGC-2015, Mohali, India, December 2015.

**Special invitee**, Subject expert committee (physical and mathematical sciences), DST Women scientist scheme, Madanapalle, India, August 2014.

**Member**, Editorial Board, *Geometric Flows* (de Gruyter journal), since 2014.

**Member**, Senate Council, IISER Pune, until April 2014.

**Scientific organizer**, 27th Indian Association for General Relativity and Gravitation (IAGRG) meeting, HNBGU Srinagar, Uttarakhand, India, March 2013.

**Organizer**, workshop on Numerical Ricci flow in Computer Science, Geometry and Physics, Vancouver, July 2011 — official satellite workshop of the International Congress of Industrial and Applied Mathematics (ICIAM) 2011.

**Member**, *Committee for Women in Mathematics*, The Canadian Mathematical society (2010-2011).

**Organizer**, 12th Canadian Conference on General Relativity and Relativistic Astrophysics (CCGRRA), Fredericton, May 2007.

Refereed papers for:

- Classical and Quantum Gravity;
- Journal of Mathematical Physics.
- Journal of Physics A (Mathematical and theoretical).
- Advances in Theoretical and Mathematical Physics.

Academic publications

*Please note: My name is abbreviated as V. Suneeta or credited as Vardarajan Suneeta in my papers. Names of authors are listed in alphabetical order except in the last publication.*

1. NON-SPHERICALLY SYMMETRIC BLACK STRING PERTURBATIONS IN THE LARGE D LIMIT  
**Amruta Sadhu, V. Suneeta**  
arXiv: 1604.00595, Accepted for publication in *Physical Review D* (on May 18, 2016).
2. NECESSARY CONDITIONS FOR AN ADS-TYPE INSTABILITY  
**Dhanya S. Menon, V. Suneeta**  
Published in *Physical Review D* 93 (2016) 024044.
3. THE SAUSAGE SIGMA MODEL REVISITED  
**V. Suneeta**  
Published in *Classical and Quantum Gravity* 32 (2015) 115005.

4. STABILITY ANALYSIS OF (A CLASS OF) ANISOTROPIC SPACETIMES  
**Bhavesh Khamesra, V. Suneeta**  
 Published in *Physical Review D*90 (2014) 024044.
5. A NAKED SINGULARITY STABLE UNDER SCALAR FIELD PERTURBATIONS  
**Amruta Sadhu, V. Suneeta**  
 Published in *Int.J.Mod.Phys.D*22 (2013) 1350015.
6. STABILITY ANALYSIS OF THE WITTEN BLACK HOLE UNDER WORLD-SHEET RG FLOW  
**Carolyn Lambert, Vardarajan Suneeta**  
 Published in *Physical Review D*86 (2012) 084041.
7. INVESTIGATING STABILITY OF A CLASS OF BLACK HOLE SPACETIMES UNDER RICCI FLOW  
**Suvankar Dutta, V. Suneeta**  
 Published in *Classical and Quantum Gravity* 27 (2010) 075012.
8. INVESTIGATING OFF-SHELL STABILITY OF ANTI-DE SITTER SPACE IN STRING THEORY  
**V. Suneeta**  
 Published in *Classical and Quantum Gravity* 26 (2009) 035023.
9. A PROPOSAL FOR STUDYING OFF-SHELL STABILITY OF VACUUM GEOMETRIES IN STRING THEORY  
**V. Suneeta**  
*Canadian Journal of Physics* 87, (2009) 213.
10. A METRIC FOR GRADIENT RG FLOW OF THE WORLD-SHEET SIGMA MODEL BEYOND FIRST ORDER  
**T. Oliynyk, V. Suneeta and E. Woolgar**  
 Published in *Physical Review D*76 (2007) 045001.
11. THE FIXED POINTS OF RG FLOW WITH A TACHYON  
**J. Gegenberg, V. Suneeta**  
 Published in *J. High Energy Physics* 0609 (2006) 045.
12. A GRADIENT FLOW FOR THE NONLINEAR SIGMA MODEL  
**T. Oliynyk, V. Suneeta and E. Woolgar**  
 Published in *Nuclear Physics B* 739 (2006) 441.

13. IRREVERSIBILITY OF WORLD-SHEET RENORMALIZATION GROUP FLOW  
**T. Oliynyk, V. Suneeta and E. Woolgar**  
Published in *Physics Letters B* **610** (2005) 115.
14. COMPARISON OF AREA SPECTRA IN LOOP QUANTUM GRAVITY  
**Gilad Gour and V. Suneeta**  
Published in *Classical and Quantum Gravity* **21** (2004) 3405.
15. QUASINORMAL MODES FOR THE SDS BLACK HOLE : AN ANALYTICAL APPROXIMATION SCHEME  
**V. Suneeta**  
Published in *Physical Review* **D68** (2003) 024020.
16. NOTES ON EUCLIDEAN DE SITTER SPACE  
**V. Suneeta**  
Published in *J. High Energy Physics*  
**JHEP09(2002)040**.
17. QUANTUM GRAVITY ON  $dS_3$   
**T.R. Govindarajan, R.K. Kaul and V. Suneeta**  
Published in *Classical and Quantum Gravity* **19** (2002) 4195.
18. LOGARITHMIC CORRECTION TO THE BEKENSTEIN-HAWKING ENTROPY OF THE BTZ BLACK HOLE **T.R. Govindarajan, R.K. Kaul and V. Suneeta**  
Published in *Classical and Quantum Gravity* **18** (2001) 2877.
19. QUASI-NORMAL MODES OF AdS BLACK HOLES : A SUPERPOTENTIAL APPROACH **T.R. Govindarajan and V. Suneeta**  
Published in *Classical and Quantum Gravity* **18** (2001) 265.
20. HORIZON STATES FOR AdS BLACK HOLES **T.R. Govindarajan, V. Suneeta and S. Vaidya**  
Published in *Nuclear Physics* **B583** (2000) 291.
21. BTZ BLACK HOLE ENTROPY FROM PONZANO-REGGE GRAVITY **V. Suneeta, R.K. Kaul and T.R. Govindarajan**  
Published in *Modern Physics Letters* **A14**, (2000) 349.

### Teaching Experience

- General Relativity (third/fourth year undergraduate course in Physics and Mathematics), IISER Pune, U. of Alberta.
- Mathematical methods (second year interdisciplinary undergraduate course), Mathematical methods for physics (3rd year undergraduate course), IISER Pune.
- World of Physics (first year Physics course).
- Introduction to Differential Manifolds (Core course for graduate students in Mathematics), U. of Alberta.
- Calculus (first year undergraduate course), U. of New Brunswick.
- Differential equations (second year undergraduate course), U. of New Brunswick.
- Discrete Mathematics (second year undergraduate course), U. of New Brunswick.
- Particles and Waves (first/second year undergraduate course in Physics), U. of Alberta.
- Guest lectures on topics in de Sitter space for graduate students in the String theory group at Seoul National University, South Korea in Fall/Winter 2001.
- Lectures to summer school students on Relativity, The Institute for Mathematical Sciences, India.
- Tutor for graduate courses, The Institute of Mathematical Sciences, India in 1998-99.

### Post-doctoral fellows, graduate and project students in my group — past and present

- Dr. Suvankar Dutta — Post-doctoral fellow, U. of Alberta, 2008 - 2009.
- Amruta Sadhu — Ph.D student, IISER Pune, 2013 to present.
- Dhanya Menon — Ph.D student, IISER Pune, 2014 to present.
- Pranav Kumar, M.S thesis, May 2015, IISER Pune.
- Bhavesh Khamesra, M.S thesis, May 2014, IISER Pune.

- Ashutosh Agnihotri — M.S thesis, May 2012, IISER Pune.
- Kaustubh Deshpande — Project student, IISER Pune, August - December 2011.
- Shruti Paranjape — Project student, IISER Pune, 2013.
- Akshay Khadse — Project student, IISER Pune, August 2014.
- Anilkumar Tolamatti — summer student, IISER Pune, 2013.
- Siddharth Mohite — summer student, IISER Pune, 2013.
- Carolyn Lambert — **NSERC** summer student, U. of Alberta, 2009.

*Some seminars and invited talks (partial list):*

- Invited talk at Field Theoretic Aspects of Gravity (FTAG) 2014, IISER Mohali, India, December 2014.
- Invited talk at Field Theoretic Aspects of Gravity (FTAG) 2013, Gandhinagar India, September 2013.
- Invited talk at Chandrayana Chandrasekhar Centenary conference, IISc Chennai, India, January 2011.
- Invited talk at Geometric Flows in Mathematics and Theoretical Physics, at Centro di Ricerca Matematica, Scuola Normale Superiore, Pisa, Italy, June 2009.
- Invited talk, Theory Canada IV, Mathematical physics session, Centre de Recherches Mathématiques, Montreal, Canada, June 2008.
- Seminar, Workshop on geometric flows in mathematics and physics, B.I.R.S, Banff, Canada, April 2008.
- Seminar, General Relativity — **GR 18**, July 2007, Sydney, Australia.
- Seminar, Canadian conference in GR and relativistic astrophysics-**CCGRR 12**, Fredericton, Canada, May 2007.
- Seminar, *Albert Einstein Institute, Golm, Germany*, September 2006.

- Seminars on research work and an expository talk on the Ricci flow program in Math at *Perimeter Institute, Waterloo*, June 2006.
- Invited speaker, Canadian Association of Physicists - **CAP Congress**, Brock University, Canada, June 2006 (Mathematical physics session).
- Seminar at General Relativity GR 17, Dublin, July 2004.

*Selected conferences/workshops/schools attended*

- **Black Holes VI**, White Point, NS, May 2007.
- Invited for the **Clay Math Summer School** on *Ricci Flow, 3-manifolds and Geometry* at the *Mathematical Sciences Research Institute (MSRI)*, Berkeley, California, U.S.A, from June 19 to July 16, 2005.
- Canadian conference in General relativity and Relativistic Astrophysics - **CCGRRRA 11**, Vancouver, Canada, May 2005.
- **Black Holes V** and *Dark side of extra dimensions*, Banff, Canada, May 2005.
- Talk at **General Relativity (GR) 17**, Dublin, July 2004.
- **The Daniel Chalonge School** on Astrofundamental Physics, Palermo, Sicily, Italy in September 2002.
- UNESCO meeting in Theoretical Physics TH-2002, Paris, France, July 2002.
- **Strings 2001**, Tata Institute for Fundamental Research, Mumbai, India, January 2001.