

## CURRICULUM VITAE

<b>Name</b>	:	B.R. IYER
<b>Date of Birth</b>	:	28 December 1952
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<b>Marital Status</b>	:	Married with one child
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<b>Academic</b>	:	Ph.D.(Physics) Bombay University 1980
<b>Career</b>	:	M.Sc. Bombay University 1976
	:	B.Sc. Bombay University 1973

<b>Research Interests</b>	:	<ol style="list-style-type: none"> <li>1. Gravitational Radiation : Theoretical Aspects of Generation, Radiation reaction, Data Analysis and Numerical Relativity</li> <li>2. Perturbation and Approximation Techniques in General Relativity</li> <li>3. Alternative Theories of Gravity</li> <li>4. Black Holes and Neutron Stars</li> </ol>
<b>Honours</b>	:	<p><b>1) Fellowship of American Physical Society (2012)</b>  <i>Citation: For his important contributions to gravitational theory, in particular the post-Newtonian approximation and equations of motion, his outstanding leadership in creating the gravitational wave community in India through the IndIGO consortium, and his key role in the LIGO-India initiative.</i></p> <p><b>2) Fellowship of International Society of General Relativity and Gravitation (2013)</b>  <i>Citation: For his work in applying the post-Minkowskian and post-Newtonian approximations to the problem of compact binary systems, and for his leadership of the gravitational-wave community of India.</i></p> <p><b>3) Beller Lectureship for APS April meeting (2015)</b></p> <p><b>4) Vaidya-Raychaudhuri Endowment award of IAGRG (2015)</b></p>
	:	<b>5) Honoris Causa by Central University of Karnataka, Kalaburagi (2018)</b>
<b>Honours</b>	:	<p><b>Shared with the LIGO Scientific Collaboration</b></p> <ol style="list-style-type: none"> <li>1) Gruber Cosmology Prize , Gruber Foundation (2016).</li> <li>2) Special Breakthrough Prize in Fundamental Physics , The Breakthrough Prize in Life Sciences. (2016)</li> <li>3) The Physics World 2016 Breakthrough of the Year for its revolutionary, first-ever direct observations of gravitational waves"</li> <li>4) The UK Royal Astronomical Society 2017 Group Achievement Award in Astronomy , for the direct detection of gravitational waves by the LIGO detectors.</li> <li>5) Bruno Rossi Prize "for the first direct detections of gravitational waves, for the discovery of merging black hole binaries, and for beginning the new era of gravitational-wave astronomy."</li> <li>6) Einstein Medal from the Einstein Society in Bern, Switzerland</li> <li>7) 2017 Princess of Asturias Award for Technical and Scientific Research</li> </ol>

<b>Memberships</b>	:	<ol style="list-style-type: none"> <li>1. The International Society on General Relativity and Gravitation (GRG)</li> <li>2. International Astronomical Union (IAU)</li> <li>3. Indian Association for General Relativity and Gravitation (IAGRG)</li> <li>4. Indian Physics Association Bangalore Chapter</li> <li>5. American Physical Society (APS) USA</li> </ol>
<b>Positions held</b>		<p><b>at ICTS, TIFR, Bangalore, India</b></p> <ol style="list-style-type: none"> <li>1. Visiting Professor ( 2015 - )</li> <li>2. Adjunct Professor (2011 - 2014)</li> </ol> <p><b>at Raman Research Institute, Bangalore, India</b></p> <ol style="list-style-type: none"> <li>1. <i>Professor II (2008 -2014)</i></li> <li>2. <i>Professor (2001 - 2008)</i></li> <li>3. <i>Associate Professor - II (1997 - 2001)</i></li> <li>4. <i>Associate Professor - I (1994 - 1997)</i></li> <li>5. <i>Research Associate (1982 - 1994)</i></li> <li>6. <i>Scientist (1980 -1982)</i></li> <li>7. <i>Chairman, Theoretical Physics Group, Oct 1998 - Oct 2001 and June 2004 - July 2005.</i></li> </ol>
<b>Visiting Scientist at</b>		<ol style="list-style-type: none"> <li>1. Washington University, St. Louis , USA</li> <li>2. University of Wales, Cardiff, UK.</li> <li>3. DARC, Observatoire de Paris Meudon, France</li> <li>4. Institut d'Astrophysique de Paris, Paris, France</li> <li>5. Institut des Hautes Etudes Scientifiques, Bures sur Yvette, France</li> <li>6. Max-Planck-Institut für Physik und Astrophysik Garching , Germany</li> <li>7. International Centre for Theoretical Physics Trieste, Italy</li> <li>8. School of Mathematical Sciences Queen Mary and Westfield College, London U.K.</li> <li>9. Astrophysics Group and LIGO , Caltech, Pasadena, USA.</li> <li>10. Albert Einstein Institute, Max Planck Institut für Gravitationsphysik, Golm, Germany</li> <li>11. Department of Earth and Space Science, Osaka University, Toyonaka, Japan</li> <li>12. Center for Gravitational Wave Physics, Penn State University, State College, USA</li> <li>13. Institut Henry Poincaré (IHP), Paris, France.</li> </ol>

<p><b>GRG/GW Organization</b></p>	<p>:</p> <ol style="list-style-type: none"> <li>1. Committee Member, International Society of General Relativity and Gravitation (2010 - 2019 ).</li> <li>2. PI of IndIGO-LSC in LIGO Scientific Collaboration (LSC) (2014 -), Chair LISC ExComm (2018-)</li> <li>3. Member, Governing Council, BASE, Jawaharlal Nehru Planetarium, Bangalore (2013 - )</li> <li>4. IndIGO-LSC Council member in LIGO Scientific Collaboration (LSC) Council (2013 -) Member LSC Council Representative Group (2017), Member Program Committee (2018-19), Member LSC ExComm (2019-)</li> <li>5. IndIGO Representative on Gravitational Wave International Committee (GWIC) (2011 -)</li> <li>6. IndIGO-LSC member in LIGO Scientific Collaboration (LSC) (2011 -)</li> <li>7. Chair, IndIGO Consortium (2009 - )</li> <li>8. Member, IUPAP GRG Young Scientist Prize committee (2014)</li> <li>9. Member, N.R. Sen Award committee (2015)</li> <li>10. Member, Juergen Ehlers Thesis Prize committee of International Society for General Relativity and Gravitation (2010)</li> <li>11. Member, Nominating Committee, International Society of General Relativity and Gravitation (2004 - 2010 ).</li> <li>12. President, Indian Association for General Relativity and Gravitation (2006 - 2008 ).</li> <li>13. Secretary, Indian Association for General Relativity and Gravitation (1994 - 1998).</li> </ol>
<p><b>Editorial</b></p>	<ol style="list-style-type: none"> <li>1. Editor in Chief for the Online Journal Living Reviews in Relativity, (2016 - ) Springer, Heidelberg, Germany.</li> <li>2. Subject Editor on Gravitational Waves for the Online Journal Living Reviews in Relativity, (2000 - ) Albert Einstein Institute, Golm, Germany. Springer, Heidelberg, Germany.</li> <li>3. Member, Editorial Board of the Online Journal Living Reviews in Relativity, Albert Einstein Institute, Golm, Germany (1998 -). Springer, Heidelberg, Germany.</li> <li>4. Member, Editorial Board of Classical Quantum Gravity (2016 - ) IOP, UK</li> </ol>
<p><b>Projects</b></p>	<ol style="list-style-type: none"> <li>1. IUSSTF Project: <i>IndoUS Centre for the Exploration of Extreme Gravity</i> , No: IUSSTF-JC-029-2016 (2017 - 2019).</li> <li>2. Indo-French Project on <i>Gravitational Waves from Neutron Star Binaries</i>, No: 2904-1 (2003 - 2007).</li> <li>3. Indo-Australian project on <i>Establishing Australian-Indian collaboration on gravitational wave astronomy</i>, No: DST/INT/AUS/P-26/08 (2009 - 2011)</li> <li>4. Indo-French Project on <i>High accuracy gravitational waves from black hole binaries</i>, No: 4204-2 (2010 - 2013).</li> </ol>

## References

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## List of Publications

1. GW190412: Observation of a Binary-Black-Hole Coalescence with Asymmetric Masses, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys.Rev*, **D** , ... (2020). arXiv:2004.08342
2. GW190814: Gravitational Waves from the Coalescence of a 23 Solar Mass Black Hole with a 2.6 Solar Mass Compact Object, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap. J. Lett*, **896**, L44 (2020). arXiv:2006.12611
3. GW190425: Observation of a compact binary coalescence with total mass 3.4 Msun, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap. J. Lett*, **892**, L3 (2020). arXiv:2001.1761
4. A joint Fermi-GBM and LIGO/Virgo analysis of compact binary mergers from the first and second gravitational-wave observing runs, Fermi-GBM instrument team, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap.J*, **893**, 100 (2020) . arXiv: 2001.00923
5. Open data from the first and second observing runs of Advanced LIGO and Virgo, The LIGO Scientific Collaboration, the Virgo Collaboration, *Scientific Data*, (2019). arXiv: 1912.11716
6. Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO, Advanced Virgo and KAGRA (by KAGRA, LSC and Virgo), The LIGO Scientific Collaboration, the Virgo Collaboration, the KAGRA collaboration, *Liv. Rev Rel.* (Accepted) (2019) arXiv:1304.0670
7. A guide to LIGO-Virgo detector noise and extraction of transient gravitational-wave signals, The LIGO Scientific Collaboration, the Virgo Collaboration, *Class. Quant. G*, **37**, 055002 (2020). arXiv:1908.11170
8. A gravitational-wave measurement of the Hubble constant following the second observing run of Advanced LIGO and Virgo, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap. J* (Submitted) arXiv:1908.06060
9. An Optically Targeted Search for Gravitational Waves emitted by Core-Collapse Supernovae during the First and Second Observing Runs of Advanced LIGO and Advanced Virgo, The LIGO Scientific Collaboration, the Virgo Collaboration, DLT-40, ASSASN *Phys. Rev. D* **101** , 084002 (2020) (Accepted) arXiv:1908.03584
10. Model comparison from LIGO-Virgo data on GW170817's binary components and consequences for the merger remnant, The LIGO Scientific Collaboration, the Virgo Collaboration, *Class. Quant. G*, **37**, 045006 (2020). arXiv:1908.01012
11. Search for eccentric binary black hole mergers with LIGO and Virgo during the first and second observing runs, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap. J*, **883**, 149 (2019). arXiv:1907.09384

12. Search for gravitational wave signals associated with gamma-ray bursts during the second observing run of Advanced LIGO and Advanced Virgo, The LIGO Scientific Collaboration, the Virgo Collaboration, IPN, *Ap. J.* **886**, 75 (2019). arXiv:1907.01443
13. Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 122002 (2019). arXiv:1906.12040
14. Search for intermediate mass black hole binaries in the first and second observing runs of the Advanced LIGO and Virgo network, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 064064 (2019). arXiv:1906.08000
15. Gravitational wave amplitudes for compact binaries in eccentric orbits at the third post-Newtonian order: Memory contributions, M. Ebersold, Y. Boetzel, C. K. Mishra, G. Faye, B. R. Iyer, P. Jetzer, *Phys. Rev. D* **100**, 084043 (2019). arXiv:1906.06263
16. All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 024017 (2019). arXiv:1905.03457
17. Gravitational-wave amplitudes for compact binaries in eccentric orbits at the third post-Newtonian order: Tail contributions and post-adiabatic corrections, Y. Boetzel, C. K. Mishra, G. Faye, A. Gopakumar, B. R. Iyer *Phys. Rev. D* **100**, 044018 (2019) arXiv:1904.11814
18. Search for sub-solar mass ultracompact binaries in Advanced LIGO's second observing run, The LIGO Scientific Collaboration, the Virgo Collaboration and S. Shandera, *Phys. Rev. Lett* **123**, 161102 (2019). arXiv: 1904.08976
19. All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **99**, 104033 (2019). arXiv: 1903.12015
20. Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 062001 (2019). arXiv: 1903.08844
21. Tests of General Relativity with the Binary Black Hole Signals from the LIGO-Virgo Catalog GWTC-1, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 104036 (2019). arXiv: 1903.04467
22. A search for the isotropic stochastic background using data from Advanced LIGO's second observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 061101(R) (2019). arXiv: 1903.02886
23. All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **100**, 024004 (2019). arXiv: 1903.01901
24. Searches for gravitational waves from known pulsars at two harmonics in 2015-2017 LIGO data, The LIGO Scientific Collaboration, the Virgo Collaboration, radio astronomers and NICER science team members, *Astrophys. J.* **879**, 10 (2019). arXiv: 1902.08507

25. Search for transient gravitational wave signals associated with magnetar bursts during Advanced LIGO's second observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **874**, 163 (2019). arXiv: 1902.01557
26. Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **99**, 122002 (2019). arXiv: 1902.08442
27. Low-latency gravitational wave alerts for multi-messenger astronomy during the second Advanced LIGO and Virgo observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **875**, 161 (2019). arXiv: 1901.03310
28. First measurement of the Hubble constant from a dark standard siren using the Dark Energy Survey galaxies and the LIGO/Virgo binary-black-hole merger GW170814, Dark Energy Survey, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J. Lett.* **876**, L7 (2019). arXiv: 1901.01540
29. Searches for Continuous Gravitational Waves from Fifteen Supernova Remnants and Fomalhaut b with Advanced LIGO, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **875**, 122 (2019). arXiv:1812.11656.
30. GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs, The LIGO Scientific Collaboration, the Virgo Collaboration, *PRX*, **9**, 031040 (2019). arXiv:1811.12907.
31. Binary Black Hole Population Properties Inferred from the First and Second Observing Runs of Advanced LIGO and Advanced Virgo, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap. J. Lett* **882** L24 (2019). arXiv:1811.12940.
32. Tests of General Relativity with GW170817, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **123**, 011102 (2019). arXiv:1811.00364.
33. Search for multimessenger sources of gravitational waves and high-energy neutrinos with Advanced LIGO during its first observing run, ANTARES, and IceCube, ANTARES, IceCube, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **870**, 134 (2019). arXiv:1810.10693.
34. Search for gravitational waves from a long-lived remnant of the binary neutron star merger GW170817, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **875**, 160 (2019). arXiv:1810.02581.
35. A Fermi Gamma-ray Burst Monitor search for electromagnetic signals coincident with gravitational-wave candidates in Advanced LIGO's first observing run, Fermi-GBM, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys. J.* **871**, 90 (2019). arXiv:1810.02764.
36. Search for sub-solar mass ultracompact binaries in Advanced LIGO's first observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **121**, 231103 (2018). arXiv:1808.04771.



37. GW170817: Measurements of neutron star radii and equation of state, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **121**, 161101 (2018). arXiv:1805.11581.
38. Properties of the binary neutron star merger GW170817, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. X* **9**, 011001 (2019), arXiv:1805.11579.
39. A Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **120**, 201102 (2018). arXiv:1802.10194.
40. Full Band All-sky Search for Periodic Gravitational Waves in the O1 LIGO Data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **97**, 102003 (2018). arXiv:1802.05141
41. Constraints on cosmic strings using data from the first Advanced LIGO observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **97**, 102002 (2018). arXiv:1712.01168
42. All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Class.Quant.Grav.* **35**, 065009 (2018) arXiv:1711.06843
43. GW170608: Observation of a 19-solar-mass Binary Black Hole Coalescence, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys.J.* **851** L35 (2017). arXiv:1711.05578
44. Search for post-merger gravitational waves from the remnant of the binary neutron star merger GW170817, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap.J.L.*, **851**, L16 (2017). arXiv:1710.09320
45. Nobel for gravitational waves, P. Ajith and B.R. Iyer, *Curr.Sc.*, **113**, 1490 (2017).
46. Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys.J.* **850**, L35 (2017). arXiv:1710.05839
47. On the Progenitor of Binary Neutron Star Merger GW170817, The LIGO Scientific Collaboration, the Virgo Collaboration, *Ap.J. L.*, **850**, L40 (2017). arXiv:1710.05838
48. GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences, The LIGO Scientific Collaboration, the Virgo Collaboration, arXiv:1710.05837
49. Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817, The LIGO Scientific Collaboration and The Virgo Collaboration, *Ap.J. L.* , L (2017). arXiv:1710.05836
50. A gravitational-wave standard siren measurement of the Hubble constant, The LIGO Scientific Collaboration and The Virgo Collaboration, The 1M2H Collaboration, The Dark Energy Camera GW-EM Collaboration and the DES Collaboration, The DLT40 Collaboration, The Las Cumbres Observatory Collaboration, The VINROUGE Collaboration, The MASTER Collaboration, *Nature*, **551**, 85 (2017). arXiv:1710.05835

51. Gravitational Waves and Gamma-rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A, LIGO Scientific Collaboration, Virgo Collaboration, Fermi Gamma-Ray Burst Monitor, INTEGRAL, *Ap.J. L.* **848**, L13 (2017). arXiv:1710.05834
52. Multi-messenger Observations of a Binary Neutron Star Merger, The LIGO Scientific Collaboration, the Virgo Collaboration, Fermi GBM, INTEGRAL, IceCube Collaboration, AstroSat Cadmium Zinc Telluride Imager Team, IPN Collaboration, The Insight-Hxmt Collaboration, ANTARES Collaboration, The Swift Collaboration, AGILE Team, The 1M2H Team, The Dark Energy Camera GW-EM Collaboration, the DES Collaboration, The DLT40 Collaboration, GRAWITA: GRAvitational Wave Inaf TeAm, The Fermi Large Area Telescope Collaboration, ATCA: Australia Telescope Compact Array, ASKAP: Australian SKA Pathfinder, Las Cumbres Observatory Group, OzGrav, DWF (Deeper, Wider, Faster Program), AST3, CAASTRO Collaborations, The VINROUGE Collaboration, MASTER Collaboration, J-GEM, GROWTH, JAGWAR, Caltech- NRAO, TTU-NRAO, NuSTAR Collaborations, Pan-STARRS, The MAXI Team, TZAC Consortium, KU Collaboration, et al. *Ap.J. L.* **848**, L12 (2017). arXiv:1710.05833
53. GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **119**, 161101 (2017). arXiv:1710.05832
54. First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **96**, 122006 (2017). arXiv:1710.02327
55. Effects of Data Quality Vetoes on a Search for Compact Binary Coalescences in Advanced LIGO's First Observing Run, The LIGO Scientific Collaboration, the Virgo Collaboration, arXiv:1710.02185
56. First search for nontensorial gravitational waves from known pulsars, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **120**, 031104 (2018). arXiv:1709.09203
57. GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett.* **119**, 141101 (2017). arXiv:1709.09660
58. LIGO-India - An unique adventure in Indian science, T. Souradeep, S. Raja, Z. Khan, C.S. Unnikrishnan, B.R. Iyer, *Current Science* **113**, 672 (2017)
59. C.V. Vishveshwara, N. Dadhich, R. Isaacson, B.R. Iyer, K. Jani, C.W. Misner, *Phys. Today* **70**, 7, 71 (2017).
60. First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **96**, 122004 (2017). arXiv:1707.02669
61. All-sky Search for Periodic Gravitational Waves in the O1 LIGO Data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **96**, 062002 (2017). arXiv:1707.02667

62. Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-Based Cross-Correlation Search in Advanced LIGO Data, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys.J.* **847**, 47 (2017). arXiv:1706.03119
63. **GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2**, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett* **D 118**, 221101 (2017). arXiv:1706.01812
64. Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO , The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **96**, 022001 (2017). arXiv:1704.04628
65. Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **95**, 122003 (2017). arXiv:1704.03719
66. C.V. Vishveshwara (1938 - 2017), N. Dadhich and B.R. Iyer, Current Science, **112**, 866 (2017)
67. First search for gravitational waves from known pulsars with Advanced LIGO, The LIGO Scientific Collaboration, the Virgo Collaboration, Accepted *Ap. J.* **839**, 19 (2017). arXiv:1701.07709
68. Directional limits on persistent gravitational waves from Advanced LIGO's first observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett* **118**, 121102 (2017). arXiv:1612.02030
69. Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett* **118**, 121101 (2017). arXiv:1612.02029
70. Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys.J.* **841**, 89 (2017). arXiv:1611.07947
71. Effects of waveform model systematics on the interpretation of GW150914, The LIGO Scientific Collaboration, the Virgo Collaboration, *Class. Quant. Grav.* **34**, 104002 (2017). arXiv:1611.07531
72. All-sky search for short gravitational-wave bursts in the first Advanced LIGO run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **95**, 042003 (2017). arXiv:1611.02972
73. Constructing waveforms, building a community, Bala Iyer, ICTS-NewsLetter, **2** Issue 2,(2016). <https://www.icts.res.in/newsletter>
74. Exploring the Sensitivity of Next Generation Gravitational Wave Detectors, The LIGO Scientific Collaboration, the Virgo Collaboration, *Class.Quant.Grav.* **34**, 044001 (2017). arXiv:1607.08697

75. Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **94**, 102002 (2016). arXiv:1606.09619
76. **GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence**, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. Lett* **D 116**, 241103 (2016). arXiv:1606.04855
77. Search for transient gravitational waves in coincidence with short duration radio transients during 2007-2013, The LIGO Scientific Collaboration, the Virgo Collaboration, others *Phys. Rev. D* **93**, 122008 (2016). arXiv:1605.01707
78. The basic physics of the binary black hole merger GW150914, The LIGO Scientific Collaboration, the Virgo Collaboration, *Annalen. Phys.* **529**, 1600209 (2017). arXiv:1608.01940
79. Upper limits on the rates of binary neutron star and neutron-star–black-hole mergers from Advanced LIGO’s first observing run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Astrophys.J.* **832**, L21 (2016). arXiv:1607.07456
80. Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **95**, 082005 (2017). arXiv:1607.02216
81. Binary Black Hole Mergers in the first Advanced LIGO Observing Run, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. X* **6**, 041015 (2016). arXiv:1606.04856
82. Directly comparing GW150914 with numerical solutions of Einstein’s equations for binary black hole coalescence, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. D* **94**, 064035 (2016). arXiv:1606.01262
83. An improved analysis of GW150914 using a fully spin-precessing waveform model, The LIGO Scientific Collaboration, the Virgo Collaboration, *Phys. Rev. X* **6**, 041014 (2016). arXiv:1606.01210
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209. Compact objects, Killing vectors, symmetries and gravitational collapse  
B.R. Iyer - in *Proceedings of the Silver Jubilee Institute on General Relativity and Cosmology*, Mysore, Ed. A.N. Maheshwari, (1989).
210. Quantum field theory in curved spacetimes: canonical quantisation  
B.R. Iyer - in *Gravitation, Gauge Theories and the Early Universe*, Eds. B.R. Iyer, N. Mukunda and C.V. Vishveshwara, Kluwer (1989).
211. Black hole thermodynamics and Hawking radiation  
B.R. Iyer - in *Gravitation, Gauge Theories and the Early Universe*, Eds. B.R. Iyer, N. Mukunda and C.V. Vishveshwara, Kluwer (1989).
212. Scalar waves in Boulware-Deser black hole geometries  
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213. The Vaidya Solution in higher dimensions  
B.R. Iyer and C.V. Vishveshwara, *Pramana*, **32**, 749 (1989).
214. Quantum field theory in black hole spacetimes  
B.R. Iyer - in *Gravitation, Quantum Fields and Superstrings*, Eds. P.M. Mathews, G. Rajasekharan and M.S. Sri Ram, World Scientific (1988).
215. The Frenet-Serret formalism and black holes in higher dimensions  
B.R. Iyer and C.V. Vishveshwara, *Class. Quant. Gravity*, **5**, 961 (1988).
216. Black hole thermodynamics  
B.R. Iyer - in *Proceedings of the South Zone Winter School in General Relativity and Cosmology*, Ed. A.N. Maheshwari (1987).
217. Quantum field theory in curved spacetime - A biased status report  
B.R. Iyer - in *Classical and Quantum Aspects of Gravitation*, Eds. S. Banerji, A.K. Raychaudhuri, J.V. Narlikar, N. Panchapakesan and P.C. Vaidya, (1987).

218. Comment on “Spinning cosmic strings and quantization of energy”  
J. Samuel and B.R. Iyer, *Phys. Rev. Lett.*, **59**, 2379 (1987).
219. Exact solutions for spacetimes with local rotational symmetry in which the Dirac equation separates  
B.R. Iyer and C.V. Vishveshwara, *J. Math. Phys.*, **28**, 1377 (1987).
220. Black holes are not forever  
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221. A gravitational analogue of the Dirac monopole  
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Reprinted in - *Strings, Lattice Gauge Theory and High Energy Phenomenology*, Eds. V. Singh and S.R. Wadia, World Scientific, Singapore (1987).
222. Comment on “Gravitomagnetic Pole and Mass Quantisation”  
J. Samuel and B.R. Iyer, *Phys. Rev. Lett.*, **57**, 1089 (1986).
223. Dirac equation in Kasner spacetime with local rotational symmetry  
B.R. Iyer, *Phys. Lett. A.*, **112**, 313 (1985).
224. General relativistic aspects of neutron star models  
B.R. Iyer and C.V. Vishveshwara - in *A Random Walk through General Relativity and Cosmology*, Eds. N. Dadhich, J. Krishna Rao, J.V. Narlikar and C.V. Vishveshwara, Wiley Eastern, (1985).
225. Accretion onto a Kerr black hole in the presence of a dipole magnetic field  
B.R. Iyer and C.V. Vishveshwara, P.J. Wiita and J.J. Goldstein,  
*Pramana*, **25**, 135 (1985).
226. Separability of the Dirac equation in a class of perfect fluid spacetimes with local rotational symmetry  
B.R. Iyer and C.V. Vishveshwara, *J. Math. Phys.*, **26**, 1034 (1985).
227. Ultracompact ( $R < 3M$ ) objects in general relativity  
B.R. Iyer, C.V. Vishveshwara and S.V. Dhurandhar, *Class. Quantum Grav.*, **2**, 219 (1985).
228. Core-envelope models of collapsed objects  
B.R. Iyer - in *Gravitation and Relativistic Astrophysics*, Eds. A.R. Prasanna, J.V. Narlikar and C.V. Vishveshwara, World Scientific  
Singapore (1984).
229. Comment on “The question of an upper bound on entropy”  
B.R. Iyer and J. Samuel, *Phys. Lett. A.*, **97**, 99 (1983).
230. Magnetic fields and accretion discs around Kerr black holes  
P.J. Wiita, C.V. Vishveshwara, M.J. Siah and B.R. Iyer, *J. Phys. A.*, **16**, 2077 (1983).
231. Magnetization of all stationary cylindrically symmetric vacuum metrics  
B.R. Iyer and C.V. Vishveshwara, *J. Math. Phys.*, **24**, 1568 (1983).

232. Dirac field theory in rotating coordinates  
B.R. Iyer, *Phys. Rev. D.*, **26**, 1900 (1982).
233. Neutrinos in gravitational collapse : The Dirac formalism  
B.R. Iyer, S.V. Dhurandhar and C.V. Vishveshwara, *Phys. Rev. D.*, **25**, 2053 (1982).
234. Detection of Dirac quanta in Rindler and black hole spacetimes and the  $\xi$ -quantization scheme  
B.R. Iyer and Arvind Kumar, *J. Phys. A.*, **13**, 469 (1980).
235. The Kerr black hole in thermal equilibrium and the  $\nu$ -vacuum  
B.R. Iyer and Arvind Kumar, *J. Phys. A.*, **12**, 1795 (1979).
236. Hawking radiation of scalar and Dirac quanta from a Kerr black hole  
B.R. Iyer and Arvind Kumar, *Pramana*, **12**, 103 (1979).
237. Spontaneous creation of massive spin-half particles by a rotating black hole  
B.R. Iyer and Arvind Kumar, *Pramana*, **11**, 171 (1978).
238. Note on absence of massive fermion super-radiance from a Kerr black hole  
B.R. Iyer and Arvind Kumar, *Phys. Rev. D.*, **18**, 4799 (1978).
239. Green's functions for spin half field theory in Rindler space  
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240. Dirac equation in Kerr spacetime  
B.R. Iyer and Arvind Kumar, *Pramana*, **8**, 500 (1977).

## Books

1. *Topical Collection: The First Century of General Relativity: GR20/Amaldi10*, ,  
Eds. Jurek Lewandowski, Bala Iyer and Sheila Rowan, Springer (2015). .
2. *Special Issue on Gravitational Wave Detection and Fundamental Physics in Space*,  
Eds. Bala R. Iyer and Wei-Tou Ni, International Journal of Modern Physics D, **22**, Number 01, (2013) (World Scientific).
3. *Proceedings of the Vth International Conference of Gravitation and Cosmology*,  
Eds. B. R. Iyer, V. C. Kuriakose and C. V. Vishveshwara, Indian Academy of Sciences, Bangalore (2004).
4. *Black Holes, Gravitational Radiation and the Universe*,  
Eds. B. R. Iyer and B. Bhawal, Kluwer (1998).
5. *Geometry, Fields and Cosmology*,  
Eds. B.R. Iyer and C. V. Vishveshwara, Kluwer (1997).
6. *Classical and Quantum Aspects of Gravitation and Cosmology*,  
Eds. G. Date and B. R. Iyer, (Institute of Mathematical Sciences Report 117, Madras) (1996).



7. *Quantum Gravity, Gravitational Radiation and Large Scale Structure in the Universe*,  
Eds. B.R. Iyer, S. V. Dhurandhar and K. Babu Joseph, IUCAA, Pune, (1993).
8. *Advances in Gravitation and Cosmology*,  
Eds. B.R. Iyer, A. R. Prasanna, R. K. Varma and C. V. Vishveshwara, Wiley Eastern  
(1993).
9. *Gravitation, Gauge Theories and the Early Universe*,  
Eds. B.R. Iyer, N. Mukunda and C.V. Vishveshwara, Kluwer (1989).
10. *Highlights in Gravitation and Cosmology*,  
Eds. B.R. Iyer,  
A. K. Kembhavi, J .V. Narlikar and C.V. Vishveshwara, C.U.P. (1989).

## Internal reports

1. LIGO Scientific Collaboration Program 2019-20, The LSC Program Committee  
<https://dcc.ligo.org/public/0160/M1900084/002/program.pdf>
2. LIGO Scientific Collaboration Program 2018-19, The LSC Program Committee  
<https://dcc.ligo.org/LIGO-M1800085/public>
3. Evaluation Report of Chillamathur Site For LIGO-India, Rajesh Nayak, Supriyo Mitra,  
Bala R Iyer (2012).
4. Project Execution Plan (PEP) of LIGO-India, (On behalf of the LIGO-India Project  
team), 2012.
5. IndIGO Charter, (On behalf of the LIGO-India Project team), 2012.
6. LIGO-India, Proposal, IndIGO Consortium, Nov 2011
7. Proposal Outline of IndIGO-I, IndIGO participation in LIGO-Australia, April 2011
8. Executive Summary Minutes of meeting on The Indian Road-Map for Gravitational Wave  
Astronomy: IndIGO - ACIGA meeting on LIGO-Australia, Delhi, February 2011.
9. Summary of the meeting on Australian International Gravitational Observatory: Project  
Plan and benefits, and 3 day Workshop on Experimental General Relativity at Perth,  
February 2010
10. Summary of the GW sessions during first Galileo-Xu meeting at Shanghai, October 2009.
11. IndIGO: Indian Initiative in Gravitational wave astronomy, 2009, S. Dhurandhar, B. R.  
Iyer, T. Souradeep, C.S. Unnikrishnan <http://www.iucaa.ernet.in/tarun/IndIGO/DD/IndIGOproposal.pdf>
12. Indian experimental gravitational wave effort: Scope and feasibility, 2009 S. Dhurandhar,  
B. R. Iyer, T. Souradeep, C.S. Unnikrishnan  
<http://www.iucaa.ernet.in/tarun/IndIGO/meetingAug102009/>

## Invited Talks at Conferences and Meetings

1. Introduction to General Relativity, Providence Women's college, Kozhikode (3 Lectures) 25-26 Nov 2019
2. From Gravitational Wave Detection to Multi-Messenger Astronomy, Keynote Lecture XI Biennial Conference of Physics Academy of North East (PANE), Assam Univ, Diphu Campus, 21 -23 Nov 2018
3. Introduction to General Relativity, Workshop on Gravitation and Gravitational Waves, Assam Univ, Silchar Campus, (3 Lectures) Oct 7 - 13 2018
4. Chair of Panel on Binary Black Holes -1 at PAX, IUCAA, 7 -10 August 2018
5. Chair of Panel Discussion on Ringdown, and Panel Member for Science drivers for 3G detectors: Fundamental Physics and Cosmology, PAX Nikhef, 14 -17 Aug 2017
6. Deciphering the universe with gravitational waves, National Conference on Recent Trends in the Study of Compact Objects Theory and Observation (RETCO - III), IIST, Thiruvananthapuram, 5 June 2017
7. C.V. Vishveshwara: Beyond the Black Hole Trail, Discussion meeting "Remembering C.V. Vishveshwara", ICTS-TIFR, Bangalore, 23 Feb 2017
8. Advanced LIGO: The Discovery Instrument, 104<sup>th</sup> Indian Science Congress, Tirupati, Session on GW, 6 Jan 2017
9. The fascinating story of gravitational wave detection, XXII DAE-BRNS High Energy Physics Symposium, Delhi University, 13 Dec 2016
10. One small strain in LIGO, one giant leap for Gravitational Wave astronomy, Evening Lecture, 61 DAE-BRNS Symposium on Nuclear Physics, SINP, Kolkata 7 Dec 2016
11. From IndIGO to LIGO-India, Asian-Pacific Gravitational Wave Forum, Hong Kong, 30 Sept 2016
12. The first direct detection of gravitational waves: Not with a whimper but a bang, M.C. Joshi memorial lecture, Mumbai Univ, 19 Oct 2016
13. LIGO-India, GWIC, Columbia Univ, 10 July 2016
14. From prediction to detection: Highlights of the fascinating history of gravitational waves, Mid year meeting of Indian Academy of Sciences, Bangalore, 1 July 2016.
15. Beyond linearized approximation of General Relativity for Gravitational Wave detection, Summer School in GW Astronomy, (3 Lectures) ICTS-TIFR, Bangalore July 1-3, 2015
16. Experiments driving Theory: Gravitational wave detection and the two body problem in general relativity, Amaldi 11 meeting, Gwanju, Korea, 22 June 2015
17. IndIGO update on LIGO-India, GWIC, Gwanju, Korea, 21 June 2015

18. LIGO-India: expanding the international network of gravitational wave detectors, Focus Session: Beller Lectureship on Gravitational wave Detection, APS April meeting April 12 2015.
19. Chipping in to detect and locate the elusive gravitational wave sources: Looking back and Looking forward, Vaidya Raychaudhuri Endowment Lecture, XXI IAGRG meeting, RRI, 19 March 2015
20. Status of LIGO-India, LVC Caltech Remote Plenary, 12 March 2015
21. LIGO-India: Towards Multi-messenger Astronomy, Astronomy, Cosmology and Fundamental Physics with Gravitational Waves, CMI 2 March 2015
22. LIGO-India: Beyond detection to Gravitational Wave Astronomy, 33rd Meeting of The Astronomical Society of India, NCRA, 19 Feb 2015
23. Report on LIGO-India, LIGO Virgo Collaboration meeting, Stanford University, Stanford, 25 - 28 August 2014
24. IndIGO update on LIGO-India, GWIC, Banff, June 2014
25. LIGO-India status update, (19 March 2014), LIGO Virgo Collaboration meeting, Artemis group (Observatoire de la Nice), Nice, 17-21 March 2014
26. LIGO-India update, (25 Sept), LIGO Virgo Collaboration meeting, AEI, Hannover, 22-27 Sept 2013
27. IndIGO, Report 2012-13, GWIC meeting, Warsaw July 7, 2013.
28. From IndIGO to LIGO-India, Interface of Numerical Relativity with Gravitational wave astronomy, neutrino physics and high energy astrophysics, ICTS, Bangalore, July 1 2013.
29. PN convergence for spinning binaries, Interface of Numerical Relativity with Gravitational wave astronomy, neutrino physics and high energy astrophysics, ICTS, Bangalore, June 25, 2013.
30. LIGO-India update, LIGO Virgo Collaboration meeting, Bethesda, 20 March 2013.
31. The long walk towards gravitational wave astronomy, Keynote address, IAGRG-27, Sringeri, Garhwal, 7 March 2013.
32. Gravitational Waves from inspiraling compact binaries in general orbits and their applications to EOM, Equations of motion in relativistic gravity, 21 Feb 2013
33. Update on LIGO-India, LIGO Virgo Collaboration meeting, Rome Sept 12, 2012
34. IndIGO, Report 2011-12, GWIC meeting, Rome Sept 11, 2012.
35. LIGO-India, Current Update, IPR, Bhat, Feb 2012
36. LIGO-India, Current Status, Workshop on GW, IUCAA, Pune, 2011, Dec 2011
37. IndIGO and LIGO-India, Introductory remarks, EGO-IndIGO meeting on GW, IUCAA, Pune Nov 2011

38. IndIGO and LIGO-India, IndIGO meeting on LIGO-India, HBCSE, Mumbai, Aug 2011
39. The case for IndIGO membership of GWIC, GWIC meeting, Cardiff, July 2011.
40. IndIGO: Genesis, Highlights and current status, Welcome address at The Indian Road-Map for Gravitational Wave Astronomy: IndIGO - ACIGA meeting on LIGO-Australia, Delhi, February 2011.
41. Gravitational waves from binary black holes, Chandrasekhar Centenary Conference, IIA, Bangalore (2010).
42. A Comparison of PN templates for inspiralling compact binaries, Australian International Gravitational Observatory: Project Plan and benefits, Perth, Australia Feb, 2010
43. Gravitational Waves: A new window to the universe, SERC winter school on Nuclear astrophysics and neutrino astrophysics, Calicut University, February 2010
44. From Einstein's quadrupole formula to GW phasing, Feb 2010 SERC winter school on Nuclear astrophysics and neutrino astrophysics, Calicut University, February 2010
45. From Principle of Equivalence to Nature of Gravitation: Albert Einstein's Inspiration (4 Lectures), Physics Department, Calicut University, Kozikode, Feb 2010
46. Gravitational Waveforms for Binary Black Holes, First Galileo-Xu Guangqi Meeting, Shanghai, China, October, 2009
47. Gravitational waves from inspiralling compact binaries in quasi-elliptical orbits - A ready reckoner,  
Post Newton 2008, International conference, Jena, June 2008.
48. The Long Walk Towards Gravitational Wave Detection,  
Recent Advances in Gravitation and Cosmology, Jamia Millia Islamia, New Delhi, 2007.
49. Gravitational waves from inspiralling compact binaries in elliptical orbits,  
Gravitational wave data analysis workshop, Institut Henri Poincare, Paris, France, 2006.
50. A course of 6 lectures on
  - a.) Gravitational waves from inspiralling compact binaries in general orbits;
  - b.) Comparison of detection templates for gravitational waves from inspiralling compact binaries;
  - c.) Parameter estimation of gravitational wave chirps by using the 3.5PN phasing formula;
 GR Trimester, Institut Henri Poincarè, Paris, France, 2006.
51. Picking up strains of the gravitational wave symphony,  
Einstein's Theories Centenary Conference, Mumbai 2005
52. Chairman of the Workshop on Analytical Approximation and Perturbation Methods at the 17th International Conference on General Relativity and Gravitation, Dublin, Ireland, 2004.
53. The search for Gravitational waves: Current status of selected topics,  
XXII IAGRG Meeting, IUCAA, Pune, India 2002.

54. Gravitational waves from inspiraling compact binaries: PN waveforms and resummed extensions,  
Focus workshop on Initial Data, State College, USA, 2002.
55. Current status of PN computations of binary inspiral,  
Gravitational wave source workshop, Livingston, USA, 2002.
56. Gravitational Wave Astronomy - Probing Physics and Unravelling Astrophysics,  
21<sup>st</sup> Meeting of Astronomical Society of India, IUCAA,  
Pune, 2002.
57. Padé approximants for gravitational waves from inspiraling compact  
binaries,  
JGRG-2000, Osaka, Japan (2000).
58. Second post-Newtonian gravitational wave polarisations for inspiralling compact binaries  
in elliptical orbits,  
Rencontres de Moriond on Gravitational waves and experimental gravity, Les arcs, France,  
1999.
59. Co - Chairman with Luc Blanchet of Workshop on Analytical Approximation and Pertur-  
bation Methods at the 15th International  
Conference on General Relativity and Gravitation, Pune, India, 1997.
60. Gravitational Radiation Reaction,  
Golden Jubilee Discussion Meeting on Gravitational Waves, RRI, Bangalore, 1997.
61. Gravitational wave generation and radiation reaction for inspiralling compact binaries,  
Golden Jubilee Symposium on Gravitation and Particle Physics, PRL, Ahmedabad, 1996.
62. Gravitational waves from inspiralling compact binaries,  
XVIII IAGRG meeting, IMSc., Madras, 1996.
63. Joint Coordinator with K. Kokkotas of Workshop on Gravitational Waves at ICGC95,  
IUCAA, Pune, 1995.
64. Gravitational Radiation Reaction,  
Workshop on Gravitational Waves, IUCAA, 1995.
65. Approximation and Perturbation techniques in gravitational radiation theory,  
Indian Math. Soc. Symposium on Gravitational waves and Astrophysics, Pune University,  
1994.
66. The Post Newtonian Spin Octupole Moment,  
Workshop on Gravitational Waves from Coalescing Binaries, Caltech, Pasadena, 1994.
67. Lectures on Approximation Methods, Multipole Techniques and Gravitational Radiation  
Damping,  
Mini Workshop on Gravitational Radiation Theory, IUCAA, Pune, 1993.
68. Chairman of the Workshop on Approximation and Perturbation Methods at the 13th  
International Conference on General Relativity and  
Gravitation, Cordoba, Argentina, 1992.

69. Lectures on Multipole Expansion Techniques for Gravitation Radiation Problems, Advanced Institutes on Gravitation Theory, Cochin, 1991.
70. The Generation Problem in Gravitational Radiation Theory, Second International Conference on Gravitation and Cosmology, Ahmedabad, 1991.
71. Lectures on Killing Vectors, Symmetries, Gravitational Collapse and Compact Objects, Silver Jubilee Institute on General Relativity and Cosmology, Mysore, 1989.
72. Black Hole Thermodynamics, South Zone Winter School in General Relativity and Cosmology, Mysore, 1987.
73. Lectures on Quantum Field Theory in Black Hole Spacetimes, UGC Instructional Workshop on Gravitation, Quantum Fields and Superstrings, Madras, 1986.
74. Lectures on Quantum Field Theory in Curved Spacetime: Canonical Quantisation, UGC Instructional Workshop on Gravitation, Gauge theories and the Early Universe, Bangalore, 1985.
75. Quantum Field Theory in Curved Spacetime: A Biased Status Report, Annual IAGRG Meeting, Burdwan, 1985.
76. Black Holes are not forever, Indian Academy of Sciences Meeting, Madurai, 1985.
77. Lectures on General Relativity, Summer Institute on Relativity and Cosmology, Madurai, 1984.
78. Core-Envelope Models of Collapsed Objects, Workshop on Gravitation and Relativistic Astrophysics, Ahmedabad, 1982.

## Contributed Papers at Conferences

1. IndIGO update on LIGO-India, APS Physics April 2013 meeting, Denver.
2. The 2.5PN linear momentum flux and associated recoil from inspiralling compact binaries in quasi-circular orbits: Non-spinning case, Chandra Kant Mishra, K.G. Arun and Bala R Iyer, Relativity and Gravitation - 100 years after Einstein in Prague, June 2012.
3. Post-Newtonian prediction for the (2,2) mode of the gravitational wave emitted by compact binaries, G. Faye, S. Marsat, L. Blanchet and B. R. Iyer, 9th LISA Symposium, Paris, 21-25 May 2012.
4. Nonspinning inspiralling compact binaries in quasi circular orbits: 2.5 PN linear momentum loss and associated recoil, Chandra Kant Mishra, K.G. Arun and Bala R Iyer, 9 ICGC, Goa, Dec 2011.
5. Parametrized tests of post-Newtonian theory using Advanced LIGO and Einstein Telescope: C.K. Mishra, K.G. Arun, B.R.Iyer and B.S. Sathyaprakash, Amaldi 9, Cardiff, July 2011.

6. Parametrized tests of post-Newtonian theory using GW observations,  
C. K. Mishra, K. G. Arun, B. R. Iyer and B. s. Sathyaprakash, XXVI meeting of IAGRG, HRI, Allahabad, India, January 2011.
7. 5.5PN spherical harmonic modes and resummed waveforms for a particle in circular orbit around a Schwarzschild black hole,  
R. Fujita and B. R. Iyer, 19th International Conference on General Relativity and Gravitation, (GR19), Mexico city, Mexico, July 2010.
8. Testing post-Newtonian theory using Advanced LIGO and Einstein Telescope,  
C. Mishra, K.G. Arun, B.R. Iyer, and B.S. Sathyaprakash, 19th International Conference on General Relativity and Gravitation, (GR19), Mexico city, Mexico, July 2010.
9. 3PN gravitational wave polarisations from inspiralling compact binaries,  
Luc Blanchet, Guillaume Faye, Bala R. Iyer and Siddhartha Sinha, 7th International LISA Symposium, Barcelona, June 2008.
10. LISA as a Dark energy probe,  
K.G. Arun, Bala R. Iyer, Chandrakant Mishra, B.S. Sathyaprakash, Siddhartha Sinha and Chris Van den Broeck, 7th International LISA Symposium, Barcelona, June 2008.
11. Precision Cosmology with LISA,  
K.G. Arun, B. R. Iyer, B.S. Sathyaprakash, S. Sinha and C. Van den Broeck, 6th International Conference on Gravitation and Cosmology, IUCAA, Pune, Dec 2007
12. The 3PN gravitational wave luminosity from inspiralling compact binaries in eccentric orbits;  
( K.G. Arun, L. Blanchet, B.R. Iyer and M.S.S. Qusailah) - XVIII International Conference on General Relativity and Gravitation (GR18), Sydney, Australia, 2007.
13. Testing post-Newtonian structure of general relativity using black hole inspirals;  
(K. Arun, B. R. Iyer, M. S. S. Qusailah and B. S. Sathyaprakash) - XVIII International Conference on General Relativity and Gravitation (GR18), Sydney, Australia, 2007.
14. How higher harmonics can help LISA to see more massive binary supermassive black hole inspirals;  
(K. Arun, B. R. Iyer, B. S. Sathyaprakash and S. Sinha) - XVIII International Conference on General Relativity and Gravitation (GR18), Sydney, Australia, 2007.
15. Higher signal harmonics, LISA's angular resolution and, dark energy;  
(K.G. Arun, Bala R. Iyer, B.S. Sathyaprakash, Siddhartha Sinha and Chris Van den Broeck) - XVIII International Conference on General Relativity and Gravitation (GR18), Sydney, Australia, 2007.
16. Testing post-Newtonian theory with gravitational wave observations,  
(K. Arun, B. R. Iyer, M. S. S. Qusailah and B. S. Sathyaprakash) - LISA: Gravitational-wave astronomy in space, RAS, London, U.K.; 2006
17. The 2.5PN gravitational wave polarisations from inspiralling compact binaries in circular orbits,

- (K. G. Arun, L. Blanchet M. S. S Qusailah and B. R. Iyer) - GR XVII Dublin, Ireland, 2004.
18. The 2.5PN gravitational wave polarisations from inspiralling compact binaries in circular orbits,  
(K. G. Arun, L. Blanchet and B. R. Iyer) - International Conference on Gravitation and Cosmology, Kochi, 2004.
  19. Padé approximants for truncated post-Newtonian neutron star models,  
(A. Gupta, A. Gopakumar, B. R. Iyer and Sai Iyer) - Numerical Relativity 2001, Krugersdorp, South Africa, 2001.
  20. Effective one body search templates for gravitational waves from binary inspiral,  
(T. Damour, B. R. Iyer and B. S. Sathyaprakash) - 16th International conference on General Relativity and Gravitation, Durban, South Africa, 2001.
  21. Gravitation-wave phasing of compact binary systems to  $7/2$  post Newtonian order,  
(L. Blanchet, G. Faye, B. R. Iyer and B. Joguet) - 16th International conference on General Relativity and Gravitation, Durban, South Africa, 2001.
  22. Third post-Newtonian generation of gravitational waves by binary systems: the multipole moments,  
(L. Blanchet, B. R. Iyer and B. Joguet) - 15th International conference on General Relativity and Gravitation, IUCAA, Pune, 1997.
  23. P-approximants and improved filters for gravitational waves from inspiralling compact binaries,  
(T. Damour, B. R. Iyer and B. S. Sathyaprakash) - 15th International conference on General Relativity and Gravitation, IUCAA, Pune, 1997.
  24. Second post-Newtonian gravitational radiation reaction for two body systems,  
(A. Gopakumar, B. R. Iyer and Sai Iyer) - 15th International conference on General Relativity and Gravitation, IUCAA, Pune, 1997. (T. Damour, B. R. Iyer and B. S. Sathyaprakash) - Second Amaldi conference on gravitational waves, Geneva, 1997.
  25. Second post newtonian gravitational radiation reaction for inspiralling compact binaries,  
(A. Gopakumar, B. R. Iyer and Sai Iyer) - Second Amaldi conference on gravitational waves, Geneva, 1997.
  26. Gravitational waves from inspiralling compact binaries: 2PN Evolution for general orbits,  
(A. Gopakumar and B. R. Iyer) - Third International conference on Gravitation and Cosmology, IUCAA, Pune, 1995.
  27. Gravitational waves from inspiralling compact binaries: Energy and angular momentum fluxes to 2PN order for general orbits,  
(A. Gopakumar and B. R. Iyer) - 14th International Conference on General Relativity and Gravitation, Florence, 1995.
  28. Gravitational waves from inspiralling compact binaries: 2PN Evolution of the orbital period,



- (A. Gopakumar and B. R. Iyer) - Conference on Astrophysical Sources of Gravitational Waves, State College, 1995.
29. The 1PN accurate Current Octupole Moment,  
(T. Damour and B. R. Iyer) - Gravitational Waves from Coalescing Binaries, Pasadena, 1994.
  30. Separability of the Dirac Equation in an Extended Class of Spacetimes with Local Rotational Symmetry,  
(B.R. Iyer and N. Kamran) - 13th International Conference on General Relativity and Gravitation, Cordoba, 1992.
  31. Post-Newtonian Generation of Gravitational Waves : Semirelativistic Spin Moments,  
(T. Damour and B.R. Iyer) - TEXAS/ESO-CERN Symposium, Brighton, 1990.
  32. The Radiating Vaidya Metric in Higher Dimensional Spacetime,  
(B.R. Iyer and C.V. Vishveshwara) - 12th International Conference on General Relativity and Gravitation, Boulder, 1989.
  33. Scalar Perturbations of Higher Dimensional Spherical Black Holes,  
(B.R. Iyer, Sai Iyer and C.V. Vishveshwara) - 12th International Conference on General Relativity and Gravitation, Boulder, 1989.
  34. The Geometry of Killing Trajectories and Black Holes in Higher Dimensions,  
(B.R. Iyer and C.V. Vishveshwara) - International Conference on Gravitation and Cosmology, Goa, 1987.
  35. Spacetimes with Local Rotational Symmetry and the Dirac Equation,  
(B.R. Iyer and C.V. Vishveshwara) - 11th International Conference on General Relativity and Gravitation, Stockholm, 1986.
  36. Magnetisation of all Stationary Cylindrically Symmetric Vacuum Metrics,  
(B.R. Iyer and C.V. Vishveshwara) - 10th International Conference on General Relativity and Gravitation, Padova, 1983.
  37. Hawking Radiation of Scalar and Dirac Quanta from a Kerr black hole,  
(B.R. Iyer and Arvind Kumar) - Einstein Centenary Symposium, Ahmedabad, 1979.

## Science Outreach

1. Deciphering the Universe with Gravitational Waves, Breakthrough Science Society Webinar on Science and Scientific Thinking, 5 July 2020.
2. Gravitational Waves and the Two Body problem in General Relativity, GW@Home with LIGO-India, 15 April 2020
3. The fascinating interplay of gravitational wave detection and the two-body problem in general relativity, Colloquium, Institute of Mathematical Sciences, Chennai, 6 Feb 2020

4. Experiments driving theory: The two-body problem in general relativity, Brahmagupta Physics Colloquium, IIT, Madras, 22 Jan 2020
5. The Detection of Gravitational Waves and the Dawn of the associated Multi-messenger Astronomy, Scientia, BITS Pilani, Pilani, 17 Jan 2020.
6. Faint Strains of the Gravitational Wave Symphony and the Dawn of Multi-messenger Astronomy, Einstein Lecture, Calicut University, Kozhikode, 25 Nov 2019
7. The physical basis of general relativity and its implications, Providence Women's College, Kozhikode, 25 Nov 2019
8. The Long Walk Towards Gravitational Wave Detection and the Rapid Sprint Towards Multi-Messenger Astronomy, 2 Nov 2019, Vishveshwara-Sarabhai Endowment lectures, IIIT, Allahabad.
9. Not with a Whimper but a Bang: From Gravitational Wave Detection to Multi-Messenger Astronomy, Oct 21 2019, Justin Huang Colloquium, Univ of Missouri, Columbia
10. From Gravitational Wave Detection to Multi Messenger Astronomy JNP Summer Program "From the Web of Universe to Life", 1 June 2019
11. Introduction to Einstein's General Relativity, JNP Summer Program "From the Web of Universe to Life", 1 June 2019
12. The discovery of Gravitational waves and the spectacular launch of multi-messenger astronomy, PES University, Bangalore, 26 Sept 2018
13. One small strain in LIGO and Virgo, One giant leap for multi-messenger astronomy, Central University of Karnataka, Kalaburagi 13 July 2018
14. One small strain in LIGO and Virgo, One giant leap for multi-messenger astronomy, Science Festival - 2018, Bangalore Science Forum, National College, Bangalore, 10 July 2018
15. From Gravitational Wave Detection to Multi-Messenger Astronomy, Founder's Day celebrations, Poornaprajna Institute of Scientific Research (PPISR), Bangalore, 5 July 2018.
16. The Dawn of MultiMessenger Astronomy, JNP Summer Program, 24 May 2018.
17. Einstein's Theory of Gravitation: General Relativity, JNP Summer Program, 24 May 2018.
18. The Detection of Gravitational Waves and the Dawn of Multi Messenger Astronomy, Stephen Hawking memorial Lecture, S&T club, Dr. Ambedkar Institute of Technology, Bangalore, 12 April 2018.
19. The Detection of Gravitational Waves and the Dawn of Multi Messenger Astronomy, Seminar on "Relativity and Gravitational Waves", J.S.S. College, Mysore, 9 March 2018.
20. The Rapid Leap from Gravitational Wave Detection to Multi-Messenger Astronomy, Distinguished BOSE-125 Lecture, S.N.Bose Centre for Basic Sciences, Kolkata, March 9 2018.

21. From Gravitational Wave Detection to Multi-Messenger Astronomy, Science Day, Vijaya College, Bangalore 28 Feb 2018.
22. The detection of gravitational waves and the two body problem in general relativity - A personal recall, IOP, Bhubaneswar 29 Jan 2018.
23. Deciphering the universe by gravitational wave observations, Silver Jubilee year of Samanta Chandrasekhar Amateur Astronomy Association (SCAAA), Bhubaneswar, 28 Jan 2018.
24. The detection of gravitational waves and the two body problem in general relativity - A personal view, KL Memorial Distinguished Lecture, CMI, Chennai, 17 Jan 2018
25. The fascinating story of gravitational wave detection: Physics Nobel 2017 and Beyond..., VII All India Young Scientist Convention, Periyar University, Salem 21 Dec 2017
26. The fascinating story of gravitational wave detection: Physics Nobel 2017 and Beyond..., MES Nobel Lectures 2017, MES College, Bangalore, 19 Nov 2017
27. The fascinating story of gravitational wave detection: Physics Nobel 2017 and Beyond..., Phi Delta Alpha, IISc, Bangalore, 11 Nov 2017
28. The fascinating story of gravitational wave detection: Physics Nobel 2017 and Beyond..., IAR, Gandhinagar, 8 Nov 2017
29. Einstein's General Relativity: From Insight to Inspiration, IAR, Gandhinagar, 8 Nov 2017
30. The fascinating story of gravitational wave detection: Physics Nobel 2017 and Beyond..., ICTS-TIFR, Bangalore, 30 Oct 2017
31. Introduction to General Relativity, JNP Summer Program, 24 May 2017
32. The detection of Gravitational waves by LIGO, JNP Summer Program, 24 May 2017
33. Introduction to General Relativity, One day seminar on Relativity, Gravity and cosmology, Govt College, Mandya, 5 April 2017
34. The detection of Gravitational waves by LIGO, One day seminar on Relativity, Gravity and cosmology, Govt College, Mandya, 5 April 2017
35. An Introduction to General Relativity and Gravitational Waves, HBCSE, Mumbai, 1 Mar 2017
36. The top scientific breakthrough of 2016: The detection of Gravitational waves by LIGO, Science Day Lecture of TIFR Alumni Association, 28 Feb 2017
37. The long walk towards gravitational wave detection; But Right again, Albert Einstein, XIV Abdus Salam Memorial Lecture 2016-17, Jamia Milia Islamia, Delhi Jan 14, 2017
38. The detection of Gravitational waves by LIGO: The top scientific breakthrough of 2016, KAAS, VVS, Bangalore, 12 Jan 2017
39. The discovery of gravitational waves by LIGO, Christ Junior College, Bangalore, 25 Nov 2016

40. Einstein's General Relativity: From Insight to Inspiration, Christ Junior College, Bangalore, 25 Nov 2016
41. Introduction to general relativity, Ramiah University, 12 Nov 2016
42. LIGO-India: From gravitational wave detection to gravitational wave astronomy, Physics Dept, Central University of Kalburgi, 4 Nov 2016
43. Einstein's General Relativity: From Insight to Inspiration, Physics Dept, Central University of Kalburgi, 4 Nov 2016
44. Triple golds at the centenary of general relativity, NCRA, Pune, 19 Sept 2016
45. An introduction to Gravitational waves and LIGO-India, BASE, JNP, Bangalore, 2 June 2016.
46. An Introduction to General Relativity, BASE, JNP, Bangalore, 2 June 2016.
47. LIGO-India: From Gravitational Wave Detection to Gravitational Wave Astronomy, IAPT, IISc, Bangalore 29 May 2016.
48. Einstein's General Relativity: From Insight to Inspiration, IAPT, IISc, Bangalore 29 May 2016.
49. Introducing LIGO-India, Technology Day Celebrations 2016, NAL, Bangalore 12 May 2016
50. Modelling Gravitational waves from coalescing compact binaries, Indo-French meeting on 750 GEV excess, ICTS-TIFR, Bangalore, 5 May 2016
51. LIGO-India Status, LVC Budapest Meeting Plenary, Budapest, 2 Sept 2015
52. LIGO-India: From Gravitational Wave Detection to Gravitational Wave Astronomy, at 100th year celebration of Einstein's works, BIT, Bangalore, 23 April 2016
53. Einstein's General Relativity: From Insight to Inspiration, at 100th year celebration of Einstein's works, BIT, Bangalore, 23 April 2016
54. Panel Discussion during The Future of Gravitational-Wave Astronomy, ICTS, Bangalore, 7 April 2016
55. Modeling gravitational waves from coalescing compact binaries, Phys. Dept., IISc, Bangalore, March 3 2016
56. Press meeting at JNP, Bangalore on The science of the Detection of gravitational waves, Feb 26 2016
57. Press Meet, The Universe in a New Light: Gravitational Waves Detected 100 Years after Einstein's Prediction, ICTS, Bangalore Feb 13 2016
58. LIGO-India: Towards gravitational-wave astronomy, The Universe in a New Light: Gravitational Waves Detected 100 Years after Einstein's Prediction, ICTS, Bangalore Feb 13 2016

59. Einstein's General Relativity: From Insight to Inspiration, Sacred Hearts College, Chal-lakudy, Feb 3, 2016
60. General Relativity: Beyond insight and elegance to observations and astronomy, Ma-hathma Gandhi University, Feb 2 2016
61. LIGO-India: Beyond Gravitational Wave Detection to Gravitational Wave Astronomy, Mahathma Gandhi University, Feb 2 2016
62. General Relativity: Beyond insight and elegance to observations and astronomy, CUSAT, Kochi, Feb 1 2016
63. LIGO-India: Beyond Gravitational Wave Detection to Gravitational Wave Astronomy, CUSAT, Kochi, Feb 1 2016
64. Gravitational Wave Primer, Utkal University, Bhubaneswar, Nov 16 2015
65. LIGO-India: Beyond Gravitational Wave Detection to Gravitational Wave Astronomy, Year of Light Conference, Einstein Series of Lectures (ICTS), Utkal University, Bhubanesh-war, Nov 15 2015
66. Einstein's General Relativity: From Insight to Inspiration, Utkal University, Bhubanesh-war, Nov 14 2015
67. The elusive GW: A GR centenary Perspective, IIA, Bangalore, 22 Oct 2015
68. LIGO-India, Beyond GW detection to GW Astronomy, JNP, Bangalore, 11 Oct 2015
69. The elusive GW: A GR centenary Perspective, TIFR, Mumbai, 8 Aug 2015
70. LIGO-India: Where do Einstein's messengers come from? IISER Thiruvananthapuram, 9 Feb 2015
71. Einstein's General Relativity: From Insight to Inspiration, IISER Thiruvananthapuram, 9 Feb 2015
72. Panel discussion on *Cultivation and spread of a scientific culture and the challenges ahead*, All India Science Congress 2014, Breakthrough Science society, 18 Oct 2014
73. The detection of gravitational waves and the two body problem in general relativity, LIGO Caltech, 19 Aug 2014
74. What is Einstein's General Relativity? ICTS outreach, Jain Univ, 13 Sept 2014
75. Panel Discussion on *Necessity of Basic Science in the present world, People's Science Fest*, Breakthrough Science society, KLEN College Bangalore 26 July 2014
76. LIGO-India: Inaugurating Gravitational Wave Astronomy, JNP, Bangalore, 21 May 2014
77. From Newtonian gravity to general relativity, JNP, Bangalore, 21 May 2014
78. From GW detection to GW Astronomy, IISER, Bhopal, 5 April 2014

79. LIGO-India: Locating Einstein's messengers and Inaugurating Gravitational Wave Astronomy, IISER, Bhopal 4 April 2014
80. Relativistic Gravitation: From Insight to Inspiration, IISER, Bhopal 4 April 2014
81. LIGO-India: Locating Einstein's messengers and Inaugurating Gravitational Wave Astronomy, IISER, Kolkata 22 Feb 2014
82. LIGO-India: Locating Einstein's messengers and Inaugurating Gravitational Wave Astronomy, Presidency university, 21 Feb 2014
83. LIGO-India: Locating Einstein's messengers and Inaugurating Gravitational Wave Astronomy, IIT Kharagpur 20 Feb 2014
84. LIGO-India: Locating cosmic chirps in the dark universe, Public lecture on 6 Sept during Field Theoretic Aspects of Gravity (FTAG 2013), IIT Gandhinagar, 5-8 Sept 2013.
85. Relativistic gravitation: From insight to inspiration, NIT, Surathkal ( Science day celebrations), 28 Feb 2013.
86. LIGO-India : Where do Einstein's messengers come from? NIT, Surathkal ( Science day celebrations), 28 Feb 2013.
87. From Relativistic Gravitation to Einstein's Messengers, Jawaharlal Nehru Planetarium, Bangalore, May 2012
88. Beyond Insight and Inspiration to Einstein's messengers, Breakthrough Society, RRI, May 2012.
89. Gravitational Waves: When Theory met Experiment, IISER, Pune, Feb 2012
90. Einstein's Theory of Gravitation and Gravitational Waves, Jawaharlal Nehru Planetarium, Bangalore, May 2011
91. The search for gravitational waves: A century of waiting, IPR, Bhat, May 2011
92. Gravitational waves: A century of waiting, Physics Dept, Bangalore University, April 2011
93. The detection of gravitational waves and the two body problem in general relativity, IHES, Bures-sur-Yvette, Oct 2010
94. Impact of Astronomy on Basic Science, Summer Program, BASE, Jawaharlal Nehru Planetarium, June 2010.
95. Einstein's Insight: It is all about Time, MES College, Bangalore, March 2010
96. The search for gravitational waves: Current status and future prospects, IISc, Bangalore, Oct 2009
97. Special Relativity, Teacher's Training programme, Jain College, Bangalore, Aug 2009

98. From backwaters of basic science to frontiers of technology: Gravitational Waves and their detection;  
JCE, Mysore Oct 2007.
99. The Long Walk towards Gravitational Wave Astronomy;  
Dept Of Physics, Mumbai University, Oct 2007.
100. Deciphering the universe with gravitational wave astronomy;  
IIA, Sept 2007.
101. Albert Einstein's insight: Its all about time!;  
Teachers Training programme, Bhagawan Mahaveer Jain College July 2006
102. From principle of relativity to nature of time: Albert Einstein's insight;  
BASE, Bangalore Planetarium, June 2006
103. (i) From principle of relativity to nature of time: Albert Einstein's insight;  
(ii) From principle of equivalence to nature of gravity: Albert Einstein's inspiration;  
(iii) From General Relativity to Gravitational wave detectors: Albert Einstein's triumph;  
Dept of Physics, NIT, Surathkal, Mar 2006
104. From General Relativity to Gravitational wave detectors: Albert Einstein's triumph;  
Dept of Physics, CUSAT, Cochin, Jan 2006
105. (i) From principle of relativity to nature of time: Albert Einstein's insight;  
(ii) From principle of equivalence to nature of gravity: Albert Einstein's inspiration;  
Mahatma Gandhi Memorial College, Udupi, State level physics workshop, Dec 2005
106. Gravitational wave detectors: Opening a new window to the universe;  
B. M. S. College, Bangalore, Dec 2005
107. From General Relativity to Gravitational wave detectors: Albert Einstein's triumph;  
M. G. University, Kottayam, Nov 2005
108. Theory of relativity: Special and General;  
CMS College, Kottayam, Nov 2005
109. From principle of relativity to nature of time: Albert Einstein's insight;  
Catholocate College, Pathanamthitta Nov 2005
110. Special Relativity: Albert Einstein's insight;  
BEL High School, Bangalore, Nov 2005
111. Special Relativity: Albert Einstein's insight;  
Presidency College, Bangalore, Nov 2005
112. From principle of relativity to nature of time: Albert Einstein's insight;  
Sri Jagadguru Renukacharya college of Science, Arts and Commerce, Bangalore, Sept 2005
113. Picking up strains of the gravitational wave symphony;  
IISc, Bangalore, August 2005

114. The Relativity of Albert Einstein; 125 Birth Anniversary Celebration,  
AIDSO and Srujana, Bangalore Aug, 2004
115. What is Special Relativity? Two Lectures;  
BASE, Bangalore - May 2004
116. Gravitational Radiation, Two Lectures at the Summer School;  
HRI, Allahabad - May 2004
117. Gravitational Waves: A new window to the universe; Delhi University, Physics Dept -  
May, 2004
118. Introduction to General Relativity and Gravitational waves;  
Dept of Physics, Jaipur university, Dec 2004
119. Albert Einstein's Insight: Special Relativity;  
Breakthrough Science Society, 2nd Science Festival, Bangalore Jan 2005
120. Albert Einstein's Insight: Special Relativity;  
Gyan Vani, Radio Talk, Mar 2005
121. Einstein's Spacetime  
Talk on Science Day , RRI Feb 2005
122. Picking up strains of the gravitational wave symphony;  
Einstein's Theories Centenary Conference, Mumbai Jan 2005
123. Two Lectures on The search for Gravitational waves;  
Calicut University, Mar 2004
124. Two Lectures on General Relativity: Einstein's theory of Gravitation;  
Calicut University, Mar 2004
125. Two Lectures on Special Relativity: Beyond Newton;  
Calicut University, Mar 2004
126. Preparing for a Career in Physics;  
Calicut University, Mar 2004
127. Two Lectures on Special Relativity;  
Bangalore University, Refresher course, Dec, 2003
128. The Gravitational Wave Symphony: A New Window to the Cosmos;  
Faculty Lecture, Gorakhpur university, Sept, 2003
129. Special Relativity;  
BASE, May, 2003.
130. General Relativity;  
BASE, May 22, 2003.
131. Introduction to general relativity;  
Summer School, RRI, May 2003.



132. Gravitational radiation;  
Summer School, RRI, May 2003.
133. Introduction to General Relativity;  
BASE, May 2002.
134. Invitation to a new astronomy;  
BASE, May 2002.
135. What will the gravitational wave detective first see?;  
IIA, March, 2003.
136. Gravitation, General Relativity and Gravitational Waves;  
Technion university, Durban, South Africa, 2001.
137. Picking up Strains of the Gravitational Wave Symphony;  
RRI Colloquium, May 2001.
138. Gravitational Waves, ( 2 lectures);  
BASE, Bangalore Planetarium; May, 2000.
139. Gravitational Waves;  
IPA Lecture at Christ college, Bangalore, October, 1998.
140. Gravitational waves: a new window to the universe;  
Dept. Of Physics, Bombay University, Mumbai; September, 1998.
141. Radiation reaction in general relativity;  
Tata Institute of Fundamental Research, Mumbai; September 1998.
142. Gravitational Waves;  
Bangalore Science Forum, National College, Bangalore, July 1998.
143. Gravitational wave astronomy;  
Physics Department, Bangalore University, March 1997.
144. Gravitational wave astronomy: A new window to the universe;  
Physical Research Laboratory, Ahmedabad, December 1996.
145. Algebraic computations in gravitational radiation theory;  
Indian Institute of Astrophysics, Bangalore, January 1997.

## Miscellaneous Academic Contributions

### Ph.D. Students

- A. Gopakumar (TIFR), M.S.S. Qusailah (Yemen), K.G. Arun (CMI), Siddhartha Sinha , Chandrakant Mishra (ICTS-TIFR)

### Post-Docs

- Kanti Jotania, Anshu Gupta, Shrirang Deshingkar, Ryuichi Fujita

## Teaching

- MPM-PN generation of GW at ICTS - 6 Lectures (2020)
- Reading course on General Relativity at ICTS (2019).
- Basic Mechanics, Electromagnetic Theory, Special Relativity and Mathematical methods, Bangalore Association for Science Education, REAP Program for B.Sc. students from city colleges over weekends, Bangalore Planetarium, (1995 - 2010, 2015, 2016, 2017, 2018)
- RRI minimum on Mathematical methods, 12 Lectures on Vector and tensor analysis and elementary differential geometry, (2005).
- Reading course on General Relativity (2004).
- Reading course on General Relativity (2003).
- Reading course on General Relativity (2002).
- Basic Mechanics and Electromagnetic Theory (Physics Study Circle, MES College), 1993-95.
- Basic Mathematical Methods for Physics (RRI), 1994-95.
- Mathematical Methods for Physics (RRI), 1993-94.
- Joint Astronomy Programme of the Indian Institute of Science : Courses on General Relativity and Cosmology for Ph.D. students during the years 1988-89, 1987-88, 1986-87 and 1985-86.
- Tutor at M.Sc. level in core courses: Quantum Mechanics and Mathematical Methods, Department of Physics, University of Bombay (1976 - 1978).
- Lecturer in Physics, C.H.M. College, Bombay University (November 1979 - April 1980).
- Tutor at M.Sc. level in core courses: Quantum Mechanics and Mathematical Methods, Department of Physics, University of Bombay (1976 - 1978).

## Mentoring Visiting Research Students

- Regularly mentored Visiting Research Students many of whom have gone on to do a Ph.D. T. Nithyanandan (2002), Anosh Joseph (2003), Partha Nag (2003), P. Ajith (2004), Pranesh Sundarajan (2004), R. Krishnan (2005), Deepak Khurana (2005), K. Karthik (2006), K. Karthik (2007), Aseem Rastogi (2009), Raghuvir Kasturi (2009), Anton Joe (2010) Madhusudan Raman (2011, 2012) and Sumanth Reddy (2011), Ashok Chaudhuri (2012), Vijay Varma (2012).  
Ashok Chaudhuri (2012-13), Vijay Varma (2012-13).  
Seema Gorur (2013), Nikhil Mukund Menon (2013), Paritosh Varma (2013)  
Soham Mukherji (2014), Nikhila Suma Bhatt (2014), Anil Tolamatti (2014-15), K. Rajaram (2014)  
I have been organiser of Summer Schools in RRI in the past.

## Ph.D Examiner

- For students in General Relativity and Cosmology from IUCAA (Pune University, JNU), CUSAT, Nagpur University, IISc, Bangalore, Calicut University, University of Jena and Nikhef.

## Training for Researchers

- I have been involved in the **Academic** planning of various Conferences and Schools for Ph.D. Students and Research workers in the fields of General Relativity, Cosmology and Relativistic Astrophysics. I have also lectured in some of them.

## Teacher Training

- I have given lectures at Refresher courses for Teachers in Bangalore.

## Academic responsibilities at RRI

- Chair of the Theory group, Member of Institute Advisory Collective, Organiser Journal club, Summer School Co-Organiser, Convener Admissions, Chair 4th year Ph.D students review committee, Chair Library Committee, Coordinator REAP, Co-Organiser RRI Inhouse meeting, Coordinator RRI Minm Course on Mathematical and Numerical methods, Co-Organiser of Golden Jubilee Conferences, Member of student academic committees

## External Academic responsibilities

- Member, JNU - IUCAA Academic Committee ( 2009 - 2013)
- Chair, IndIGO Consortium

## Vision Document

- Chair of the **Gravitation and Particle Astrophysics** panel for ‘Decadal Vision Document on Astronomy and Astrophysics’, Indian Academy of Sciences, Bangalore (2004).

## Referee for

- Referee for Physical Review Letters, Physical Review D, Classical Quantum Gravity General Relativity and Gravitation and Pramana
- Referee for IndoFrench, Indo-US projects Max Planck Partner Group, Netherlands Foundation for Fundamental Research on Matter: FOM
- Tenure confirmation at Univ Texas, Brownsville , USA; Syracuse UniversityUSA.
- Faculty promotions at TIFR; Saha Institute; IISER, Kolkata; IUCAA
- Faculty hiring at TIFR, HRI, IISER’s, IISc, CMI, ICTS, University of Delhi, Rochester Inst of Technology (USA), NIKHEF (Holland), IIT- Gandhinagar

## Member Scientific Organising Committee

- I have been on the Scientific organising committees of the following *International Conferences*:
  1. IAU Symposium on Neutron Star Astrophysics at the Crossroads: Magnetars and the Multimessenger Revolution, L Aquila, June 22 - 26, 2020
  2. 2019 Asian-Pacific Winter School and Workshop on Gravitation and Cosmology, YITP, Kyoto, 11-15 February 2019
  3. 22nd International Conference on General Relativity and Gravitation, (GR22), Valencia, Spain (2019).
  4. 15th Marcel Grossman meeting (MG14) at Rome, (Member, International Coordinating committee) 2018.
  5. XII Amaldi meeting, Pasadena, (2017)
  6. VIIIth ICGC meeting, Mohali (2015)
  7. 14th Marcel Grossman meeting (MG14) at Rome, (Member, International Coordinating committee) 2015.
  8. 21st International Conference on General Relativity and Gravitation, (GR21), Columbia, USA (2016).
  9. The Next Detectors for Gravitational Wave Astronomy, KITP, China 5 Apr - 8 May 2015
  10. 10th International LISA Symposium, Gainesville, USA (2014)
  11. Gravitational Wave Physics and Astronomy Workshop, Pune, India 2013
  12. 20th International Conference on General Relativity and Gravitation, (GR20), Warsaw, Poland, (Chairperson, SOC)
  13. 10th Amaldi meeting on GW, Warsaw, Poland, 2013.
  14. AstroD5, RRI, Bangalore, 2012, ( Co-Chair, SOC; Chair, LOC)
  15. 13th Marcel Grossman meeting (MG13) at Stockholm, (Member, International Coordinating committee) 2012.
  16. Eighteenth International Conference on General Relativity and Gravitation, Sydney, 2007.
  17. International Conference on Gravitation and Cosmology, Kochi, 2004 (Chairman, SOC)
  18. Sixteenth International Conference on General Relativity and Gravitation, Durban, 2001.
  19. International Conference on Gravitation and Cosmology, Pune, 1995.
  20. Fourteenth International Conference on General relativity and Gravitation, Florence, 1995.
  21. International Conference on Gravitation and Cosmology, Ahmedabad, 1991
  22. International Conference on Gravitation and Cosmology, Goa, 1987
- I have been on the Scientific organising committees of the following *National Conferences, Schools and Meetings*:
  1. Summer School on Gravitational-Wave Astronomy, (Co-Organizer), 15 July - 26 2019

2. Summer School on Gravitational-Wave Astronomy, (Co-Organizer), 13 Aug - 24 Aug 2018
3. Summer School on Gravitational-Wave Astronomy, (Co-Organizer), 17 July - 28 July 2017
4. Remembering C. V. Vishveshwara, (Co-organizer), 23 Feb 2017
5. Summer School on Gravitational-Wave Astronomy, (Co-Organizer), 25 July - 5 Aug 2016.
6. The Future of Gravitational-Wave Astronomy, (Co-organizer) (04 Apr - 08 Apr, 2016)
7. The Universe in a New Light: Gravitational Waves Detected 100 Years after Einstein's Prediction, (Co-organizer) (13 Feb 2016)
8. AEI-ICTS joint workshop on gravitational-wave astronomy (Co-Organizer) (04 Nov - 06 Nov, 2015)
9. Summer School on Gravitational wave astronomy, ICTS-TIFR, 29 June - 10 July 2015 (Co-organizer)
10. Astronomy, Cosmology and Fundamental Physics with Gravitational Waves, CMI Silver Jubilee meeting, March 24, 2015.
11. ICTS Winter School On Experimental Gravitational-Wave Physics, RRCAT, Indore, (2013) (Co-organizer)
12. Summer School on Numerical Relativity, ICTS, Bangalore, June 2013 (Co-organizer)
13. Workshop: Interface of Numerical Relativity with Gravitational-Wave Astronomy, Neutrino Physics and High-Energy Astrophysics, ICTS, Bangalore, June - July 2013 (Co-organizer)
14. IPR meeting on LIGO-India, IPR, Bhat Feb 2012 (Organizer).
15. Workshop on Gravitational Wave Astronomy, IUCAA, Pune, Dec 2011 (Co-Organizer)
16. EGO-IndIGO meeting on Gravitational Waves, IUCAA, Pune, Nov 2011 (Co-Chair SOC)
17. IndIGO meeting on LIGO-India, HBCSE, Mumbai, Aug 2011 (Organizer)
18. Discussion meeting on Gravitational Radiation and Quantum General Relativity, RRI, Bangalore, 1997, (Joint Organiser).
19. Physics of Black holes, IISc., Bangalore, 1997.
20. XVIII meeting of the IAGRG, IISc., Madras, 1996, (Chairman).
21. Advanced Institutes on Gravitation Theory, Cochin, 1991, (Co-Director).
22. First Inter University Graduate School on Gravitation and Cosmology, Pune, 1989, ( Co-Director).
23. Quantum Gravity and the Early Universe, Delhi, 1987.
24. Gravitation, Quantum Fields and Superstrings, Madras, 1986.
25. Gravitation, Gauge Theories and the Early Universe, Bangalore, 1985.
26. Summer Institute on General Relativity and Cosmology, Madurai, 1984.

## Participant at the following International Conferences

1. 9th International Conference on Gravitation and Cosmology (ICGC 2019), IISER, Mohali, 10 Dec - 13 Dec 2019
2. Future of Gravitational Wave Astronomy, ICTS-TIFR, Bangalore 19 Aug - 22 Aug 2019
3. GR22 and Amaldi13, Valencia Spain July 7 - 12 2019
4. GWIC meeting, Valencia Spain July 6 2019
5. LVC meeting, Maastricht, Sept 4 - 7, 2018
6. LVC meeting, Sonoma, March 19 - 22, 2018
7. ICTS at Ten, ICTS, Bangalore, 4 - 7 Jan 2018
8. Physics and Astrophysics at the eXtreme (PAX), Nikhef, 14 - 17 Aug 2017
9. The Era of Gravitational Wave Astronomy, IAP, Paris, 26 -30 June 2017.
10. ICTS-SAMSI Workshop, ICTS-TIFR, Bangalore, March 20 - 23 2017
11. LVC meeting, Pasadena, March 13 - 16, 2017
12. Asian-Pacific Gravitational Wave Forum, Hong Kong, 30 Sept-1 Oct 2016
13. GR21, Columbia University, 10-15 July 2016
14. LIGO Virgo Collaboration meeting, Pasadena, USA 13 Mar - 18 Mar 2016
15. LIGO Press Conference, Washington DC, 11 Feb 2016 (IndIGO representative at the GW discovery announcement)
16. 8th International Conference on Gravitation and Cosmology (ICGC) IISER-Mohali, December 2015.
17. LIGO Virgo Collaboration meeting, Budapest, Hungary 26 Aug - 03 Sept 2015
18. APS Physics April 2015 meeting, Baltimore, April 2015.
19. LIGO Virgo Collaboration meeting, Stanford University, Stanford, 25 - 28 August 2014
20. LIGO Virgo Collaboration meeting, Artemis group (Observatoire de la Nice), Nice, 17-21 March 2014
21. ICTS Winter School On Experimental Gravitational-Wave Physics, RRCAT, Indore, (2013)
22. Gravitational Wave Physics and Astronomy Workshop, Pune, India 2013
23. 20th International Conference on General Relativity and Gravitation, (GR20), and 10th Amaldi meeting on GW, Warsaw, Poland, July 2013.
24. GWIC meeting, Warsaw, Poland July 2013.
25. APS Physics April 2013 meeting, Denver, April 2013.
26. LIGO Virgo Collaboration meeting, Betheseda, Mar 2013
27. Equations of motion in relativistic gravity, Bad Honneaf, Feb 2013.
28. LIGO Virgo Collaboration meeting, Rome, Sept 2012
29. GWIC meeting, Rome, July 2012.

30. ASTROD 5 Meeting, RRI, Bangalore, July 2012
31. Relativity and Gravitation - 100 years after Einstein in Prague, Prague, June 2012
32. 7th International Conference on Gravitation and Cosmology (ICGC) Goa, December 2011.
33. Amaldi 9 and NRDA conference on Gravitational waves, Cardiff, UK, July 2011
34. GWIC meeting, July 2011.
35. 19th International Conference on General Relativity and Gravitation, (GR19), Mexico city, Mexico, July 2010.
36. Australian International Gravitational Observatory: Project Plan and benefits, Perth, Australia, Feb 2010
37. Experimental General Relativity, UWA, Perth, Australia, March 2010
38. Science without boundaries, ICTS inaugural meeting, Bangalore Dec 2009
39. First Galileo-Xu Guangqi Meeting, Shanghai, China October, 2009
40. Post Newton 2008, Jena, June 2008
41. 7th International LISA Symposium, Barcelona, June 2008.
42. 6th International Conference on Gravitation and Cosmology, IUCAA, Pune, Dec 17 - Dec 21 2007
43. Eighteenth International Conference on General Relativity and Gravitation, Sydney, 2007.
44. Gravitational wave data analysis, 2006; Institut Henri Poincare, Paris, France
45. From mathematics to numerics, 2006; Institut Henri Poincare, Paris, France
46. GR Trimester, Institut Henri Poincarè, France; 2006.
47. Seventeenth International Conference on General Relativity and Gravitation, Dublin, 2004.
48. Fifth International Conference on Gravitation and Cosmology, CUSAT, Kochi, 2004.
49. Focus workshop on Initial Data, State College, 2002.
50. Gravitational wave source workshop, Livingston, 2002.
51. Numerical Relativity 2001, Krugersdorp, 2001.
52. Sixteenth International Conference on General Relativity and Gravitation, Durban, 2001.
53. Meeting of The Japanese GRG Society, Osaka, 2000.
54. Rencontres de Moriond on Gravitational Waves, Les Arcs, 1999.
55. Fifteenth International conference on General Relativity and Gravitation, IUCAA, Pune, Dec 16 - 21, 1997.
56. Second Amaldi meeting on Gravitational Waves, CERN, Geneva, 1997.
57. Third International Conference on Gravitation and Cosmology, IUCAA, Pune, 1995.
58. 14th International Conference on General Relativity and Gravitation, Florence, 1995.

59. Astrophysical sources of Gravitational Waves, State College, 1995.
60. Workshop on Gravitational Waves from Coalescing Binaries, Caltech, Pasadena, 1994.
61. 13th International Conference on General Relativity and Gravitation, Cordoba, 1992.
62. Second International Conference on Gravitation and Cosmology, PRL, Ahmedabad, 1991.
63. TEXAS/ESO-CERN Symposium, Brighton, 1990.
64. International Conference on Gravitation and Cosmology, Goa, 1987.
65. Gravitation in Astrophysics, Cargese, 1986.
66. 11th International Conference on General Relativity and Gravitation, Stockholm, 1986.
67. Origin and History of the Early Universe, Liege, 1986.
68. International Astronomical Union General Assembly, New Delhi, 1985.
69. Einstein Centenary Symposium, Ahmedabad, 1979.

### **Participant at the following National Conferences and Meetings**

1. Chennai Symposium on Gravitation and Cosmology, IIT Madras, 22 Jan - 24 Jan 2020.
2. Supermassive Black holes, ICTS-TIFR, Bengaluru, 16 Dec - 20 Dec 2019
3. Application of Data SCience in Astrophysics and Gravitational wave research, 1 Nov - 3 Nov 2019, IIIT, Allahabad.
4. Multi-messenger Astronomy in the Era of LIGO-India (IUCAA), Khandala, 15 - 18 Jan 2019
5. XXX IAGRG Meeting, Bits Pilani, Hyderabad campus 3 - 5 Jan 2019.
6. Cosmic fireworks: The dawn of multimessenger astronomy, ICTS, Bengaluru, 19 Oct 2017
7. RETCO - III, IIST, Thiruvananthapuram, 5 - 7 June 2017
8. XXIX IAGRG meeting, IIT, Gauhati 18-20 May 2017
9. LIGO-India: The road ahead II, IUCAA, Pune, Dec 19 - 21 2016
10. One day seminar on Gravitational waves, Ramiah University, Bangalore, 12 Nov 2016
11. LIGO-India: The road ahead, IUCAA, Pune, Aug 16 - 18 2016
12. Summer School on Gravitational-Wave Astronomy, 25 July - 5 Aug 2016
13. Observing Black Holes, ICTS-TIFR, Bangalore 17 June 2016
14. Mid year meeting of the Indian Academy of Sciences, Bangalore 1 July 2016
15. The Future of Gravitational-Wave Astronomy, (04 Apr - 08 Apr, 2016)
16. The Universe in a New Light: Gravitational Waves Detected 100 Years after Einstein's Prediction (13 Feb 2016)



17. Year of Light Conference, Utkal University, Bhubaneswar, 15 Nov 2015
18. AEI-ICTS joint workshop on gravitational-wave astronomy, ICTS, 4 - 6 Nov 2015
19. XXVIII IAGRG meeting, RRI, 18-20 March 2015
20. Astronomy, Cosmology and Fundamental Physics with Gravitational Waves, CMI 2 - 4 March 2015
21. 33rd Meeting of The Astronomical Society of India, NCRA, 17 - 20 Feb 2015
22. JVN at 75, IUCAA, July 2013
23. Workshop: Interface of Numerical Relativity with Gravitational-Wave Astronomy, Neutrino Physics and High-Energy Astrophysics, ICTS, Bangalore, June - July 2013
24. Summer School on Numerical Relativity, ICTS, Bangalore, June 2013
25. IUCAA meeting on LIGO-India, IUCAA, June 2013
26. IUCAA meeting on LIGO-India, IUCAA, Jan 2013
27. RRCAT meeting on LIGO-India, RRCAT, Jan 2013
28. IAGRG-27, Mar 2013.
29. IPR meeting on LIGO-India, IPR, Bhat Feb 2012.
30. Workshop on Gravitational Wave Astronomy, IUCAA, Pune, Dec 2011.
31. Astronomy Mega-Projects presentation, DST, Delhi, Nov 2011
32. EGO-IndIGO meeting on Gravitational Waves, IUCAA, Pune, Nov 2011.
33. IndIGO LIGO meeting on LIGO-India, IUCAA, Pune, Oct 2011
34. IndIGO meeting on LIGO-India, HBCSE, Mumbai, Aug 2011.
35. IndIGO presentation on LIGO-India, RRI, Bangalore, June 2011
36. The Indian Road-Map for Gravitational Wave Astronomy: IndIGO - ACIGA meeting on LIGO-Australia, Delhi, February 2011.
37. XXVI IAGRG meeting, Sangam: Confluence of Gravitation and Cosmology, HRI, Allahabad, India 2011
38. SERC winter school on Nuclear astrophysics and neutrino astrophysics, Calicut University, February 2010
39. Indian experimental gravitational wave effort: Scope and feasibility, IUCAA, Pune Aug 2009
40. XXIV IAGRG Meeting, Jamia Millia Islamia, New Delhi, India 2007.
41. Einstein's Theories Centenary Conference, Mumbai 2005.
42. XXIII IAGRG Meeting, IUCAA, Jaipur, India 2004.
43. XXII IAGRG Meeting, IUCAA, Pune, India 2002.
44. 21<sup>st</sup> Meeting of Astronomical Society of India, IUCAA, Pune, 2002.
45. Geometric phases in physics and foundations of quantum mechanics, IISc., Bangalore, 2001.
46. Discussion meeting on Isolated Horizons and Quantum Geometry, RRI, Bangalore, 2001.

47. Discussion meeting on Gravitational Radiation and Quantum General Relativity, RRI, Bangalore, 1997.
48. Physics of Black holes, IISc., Bangalore, 1997.
49. Golden Jubilee Discussion Meeting on Gravitation and Particle Physics, PRL, Ahmedabad, 1996.
50. XVIII meeting of the IAGRG, IMSc., Madras, 1996.
51. Workshop on gravitational collapse and cosmic censorship, IUCAA, Pune, 1995.
52. Workshop on Gravitational Waves, IUCAA, Pune, 1995
53. Mini Workshop on Gravitational Radiation, IUCAA, Pune, 1993.
54. Advanced Institutes on Gravitation Theory, Cochin, 1991.
55. First Inter University Graduate School on Gravitation and Cosmology, Pune, 1989.
56. Quantum Gravity and the Early Universe, Delhi, 1987.
57. Gravitation, Quantum Fields and Superstrings, Madras, 1986.
58. Annual meeting of IAGRG, Burdwan, 1985.
59. Gravitation, Gauge Theories and the Early Universe, Bangalore, 1985.
60. Summer Institute on General Relativity and Cosmology, Madurai, 1984.

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