

CURRICULUM VITAE

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Education :

1968 - '71 : B.Sc. (Mathematics), Madras Christian College
1971 - '73 : M.Sc. (Mathematics), Indian Institute of Technology, Madras
1973 - '77 : Ph.D. (Mathematics), Indiana University
Thesis : Characterisation theorems for integral operators
Advisor : Paul Halmos

Employment :

1977-'78 : Instructor, University of California at Santa Barbara
1978-'79 : Asst. Professor, Madras Christian College
1979-'81 : Visiting Fellow, T.I.F.R., Bombay
1981-'85 : Lecturer, Indian Statistical Institute, New Delhi
1985-'86 : Visiting Assoc. Professor, IUPUI, Indianapolis
1986-'87 : Visiting Asst. Professor, UCLA, Los Angeles
1987-'89 : Associate Professor, Indian Statistical Institute, Bangalore
1989-'94 : Professor, Indian Statistical Institute, Bangalore
1994-'95 : Guest Professor, R.I.M.S., Kyoto
1995-'98 : Professor, The Institute of Mathematical Sciences, Madras
1998-'99 : Visiting Professor at Calif. State Univ. at Hayward, and at Univ. of Iowa
1999-'02 : Professor, The Institute of Mathematical Sciences, Chennai

2002-10: Professor 'H', The Institute of Mathematical Sciences, Chennai
2010- : Professor 'I', The Institute of Mathematical Sciences, Chennai

Awards, honours, other professional activities, etc:

- I received the Distinguished Alumnus Award for 2011 from the Indian Institute of Technology, Madras.
- I was elected a Fellow of the Indian Academy of Sciences, the National Academy of Sciences, and the Indian National Science Academy in 1990, 1997 and 2004, respectively.
- I was awarded the Shanti Swarup Bhatnager Prize for Mathematical Sciences in 1996 (which is considered the highest recognition for a scientist in India).
- I was awarded the J C Bose Fellowship for 2008-2014.
- I was the Head of the Stat.-Math. Unit, Indian Statistical Institute, Bangalore from March 1990 till June 1993.
- I was on the Editorial Board of the Journal of the Ramanujan Mathematics Society for several years, and am on the Editorial Board of the Proceedings of the Indian Academy of Sciences (Math. Sci.), as well as the TRIM series of books published by the Hindustan Book Agency.
- I was a member of the Board of the School of Mathematics, University of Hyderabad for a couple of years.
- I was a member of the Technical Advisory Committee of the Theoretical Statistics and Mathematics Division of the Indian Statistical Institute for three years.
- I was a Member of the Mathematical Sciences Research Committee of the Council of Scientific and Industrial Research (in India) for two years.
- I was a regular reviewer for the Mathematical Reviews for about 15 years, as well as a referee for several journals (both national and international).
- I was a member of the Council of the Indian Academy of Sciences, from 2004 to 2006.
- I was convener for the Board of Studies in Math. Sciences for the Homi Bhabha National Institute from its inception in 2006 till I stepped down in 2010.
- I organised a Satellite Conference (to the International Congress of Mathematicians) on Operator Algebras in August 2010.

- In addition to the longer visits mentioned under ‘Employment’ above, I have, during the past 20 years, been a short-term visitor to various Institutes/Universities (with more than one visit to several of these), such as: UC Berkeley, University of Iowa, Cal State Univ at Hayward, Penn State Univ, Univ of Florida at Gainesville in USA; Univ of Nottingham and Cambridge Univ in UK; the universities at Aarhus, Odense and Copenhagen in Denmark; the universities at Paris and Orleans in France; and the universities of New South Wales and of Newcastle in Australia. I was invited as a Research Professor to visit the Mathematical Sciences Research Institute, Berkeley, for four months (November ‘00-February ‘01) during their special programme on Operator Algebras. More recently, I was invited to (i) attend a programme at Luminy near Marseilles, France on ‘Non-Commutative Geometry in Mathematics and Physics’ and to give a lecture during the week devoted to ‘von Neumann algebras’, and (ii) to participate in and lecture at two workshops (separated by two years) on ‘von Neumann algebras’ at Banff International Research Station in Canada.
- I have been an invited speaker at various international conferences, such as: the satellite conference (to the International Congress of Mathematicians) on Operator Algebras held at Santa Barbara (1986) Kyoto (1990) and at Chengde (2002); the AMS conference on ‘Subfactors’, held at Eugene, Oregon (1994); the GPOTS conference at Ames, Iowa (1999); the AMS conference on ‘Hypergroups and Applications’ held at Seattle, Washington (1994); OATE 2 at Craiova, Romania(1989); the Aegean Conference on Operator Algebras at Pythagorio, Greece (1996); etc. In addition, I organised the first International Conference on Operator Algebras in India in January, ‘97, which was attended by numerous leading figures in the field such as Huzihiro Araki, Uffe Haagerup, Adrian Ocneanu, Georges Skandalis and Dan Voiculescu, and was a very successful conference.
- I have delivered lectures in various universities (Jammu, Delhi, Ahmedabad, Rajkot, Vallabh Vidya Nagar, Bombay, Pune, Ahamadnagar, Calicut, Cochin, Mysore, Bangalore, Tirunelveli, Madurai, Madras, Pondicherry, Secunderabad, Hyderabad) and resarch institutes (TIFR, IIT Bombay, Kozhikode School of Mathematics, ISI Bangalore, IISc, TIFR Bangalore, IMSc, Ramanujan Institute, IIT Madras, NISER Bhubhaneswar, ISI Calcutta, IIT Kanpur, HRI Allahabad, ISI Delhi, IIT Delhi, JNU Delhi) all across the length and breadth of India.
- I have been actively involved in mathematics education in India; see, for instance, my article *Can we do something about our mathematics education ?*, Current Science, 62, (1992), 658-659, which is a report on a discussion held at Bangalore during a workshop on Harmonic Analysis organised by the Indian Academy of Sciences. As a follow-up to this discussion and article, I was involved, together with Professor S. Kumaresan of the University of Bombay, in establishing the now quite successful *Mathematics Training and Talent Search Programme* that is conducted annually by the National Board for Higher Mathematics. I have written several lecture notes for this programme, some of which have been subsequently used in the NURTURE Programme run by NBHM.

Research :

My area of research (for the past 25 years) is the theory of Subfactors. This is a sub-area of the theory of von Neumann algebras (in Mathematics), which was born in the mid-1980's with the seminal work of Vaughan Jones. It has important connections with other areas of mathematics (such as topology) as well as with some areas of physics (such as (quantum as well as conformal) field theory and statistical mechanics).

Among the better known of my contributions to this area are: the formulation of a 'path-model' to study towers of algebras, the construction of several series of new 'irreducible' subfactors, and the axiomatisation of certain structures called 'integral hypergroups', which I used to show that certain Dynkin diagrams could not arise as the so-called principal graph invariant of a subfactor (thus providing the first proof of an unproved assertion by Ocneanu). My work with my student Uma Krishnan on 'biunary permutation matrices' has also been well-received, and was the starting point for a UC Berkeley thesis by Vaughan Jones' student Bina Bhattacharyya.

Another of my more important contributions has been the book (listed as [3] below) with Vaughan Jones which was one of the first, and still one of the most widely used, introductions to the theory of subfactors. (Among other things, the origins of Jones' development of the theory of *planar algebras* can be traced to computations in the last chapter of this book.) During the past few years, I have been interested primarily in planar algebras. Of late, I have been working at the interface between planar algebras and free probability.

Before I 'moved to subfactors', I was an operator theorist by training and have obtained some interesting results on integral operators as well as in various problems of matrix theory.

Publications : (The numbers in parentheses refer to Math. Reviews and Zentralblatt für Math.)

Books :

1. (with P.R. Halmos), *Bounded Integral operators on L^2 -spaces*, Ergeb. der Math, 96, Springer-Verlag, Berlin, 1978 (M.R. 80g:47036 and 87f:47041, Zbl 573.47020, 389.47001).
2. *An invitation to von Neumann algebras*, Universitext, Springer-Verlag, New York, 1986 (M.R. 88f:46115, Zbl 616.46052).
3. (with Vaughan Jones), *Introduction to Subfactors*, London Math. Soc. Lecture Note Series, 234, Cambridge University Press, Cambridge, 1997. (M.R.98h:46067 Zbl 903.46062)
4. *Functional Analysis: Spectral Theory*, TRIM Series No. 13, Hindustan Book Agency, Delhi, 1997; international edition: Birkhäuser Advanced Texts, Basel, 1997. (M.R. 99h:47001, Zbl 957.47001, 919.46002)
5. (with Vijay Kodiyalam) *Topological Quantum Field Theories from Subfactors*, Chapman & Hall/CRC Research Notes in Mathematics Series, 423, 2000 (Zbl 992.07801).(M.R. 2003a:57024.)

6. (with Siva Athreya), *Measure and Probability*, Universities Press, Hyderabad, 2008. (ISBN:978-81-7371-613-3)
7. (with Ved Prakash Gupta and Prabha Mandayam), *Functional Analysis of Quantum Information Theory*, e-print arXiv 1410-7188 (quant-ph) and Springer Lecture Notes in Physics, No. 902, (2015).
8. *Operators on Hilbert space*, TRIM Series No. 71, Hindustan Book Agency, 2015, and as e-book by Springer, <http://link.springer.com/book/10.1007/978-981-10-1816-9>.

Conference Proceedings :

1. *Harmonic Analysis and hypergroups*, Proceedings of the International Conference on Harmonic Analysis, held at the University of Delhi, December 1995, Eds. K.A. Ross, J.M. Anderson, G.L. Litvinov, A.I. Singh, V.S. Sunder and N.J. Wildberger, Trends in Mathematics, Birkhäuser Boston Inc., Boston, 1998. (M.R. 99a:43001, Zbl 879.00047)
2. Edited Special Issue, on *Operator Theory, Quantum Probability and Noncommutative Geometry*, of the Proceedings of the Mathematical Sciences of the Indian Academy of Sciences, vol. **116**, no. 4, 2006..

Papers :

1. *Two characterisation theorems for integral operators*, Integral Eqns. and Oper. Theory, **1** (1978), 250-269.(M.R.80d:47079, Zbl 376.47024).
2. *Absolutely bounded matrices*, Indiana Univ Math. J. **27** (1978),919-927. (M.R. 80d:47052, Zbl 419.47011). [
3. *Algebra of kernels*, J of the Indian Math. Soc., **44** (1979), 143-156. (M.R. 86j:47076, Zbl 621.47031).
4. *Unitary equivalence to integral operators*, Pacific J, of Math. **92** (1981), 211-215 (M.R. 82f:47045, Zbl 508.47020).
5. *A non-commutative analogue of $|DX^k| = |kx^{k-1}|$* , Lin. Alg. and Applicns, **44** (1982), 87-95, (M.R. 83h:47004, Zbl 486.46050).
6. *Distance between normal operators*, Proc. Amer. Math. Soc. **84** (1982), 483-484, (M.R. 83c:47040, Zbl 486.47015).
7. *On permutations, convex hulls and normal operators*, Lin Alg and Applicns., **48** (1982),403-411.(M.R.85b:15032, Zbl 537.15014).

8. *A spectrum modulo operators of rank less than n* , Math. Today , **1** (1983), 81-88. (M.R.85a:47018, Zbl 532.47010).
9. *On ideals and duals of C^* -algebras*, Indian J. of Pure and Appl. Math, **15** (1984),601-608.(M.R.85i:46079, Zbl 588.46039).
10. (with R.B. Bapat), *On majorisation and Schur products*, Lin. Alg and Applicns., **72**(1985), 107-117. (M.R.87c:15018, Zbl 577.15016).
11. (with R.B. Bapat), *An extremal property of the Permanent and the Determinant*, Lin. Alg. and Applicns, **76** (1986), 153-164.(M.R.87j:15012, Zbl 602.15008).
12. *Stochastic integration in Fock space*, Pac. J. of Math., **122** (1986), 481-491. (M.R.88c:60126, Zbl 583.60051, 543.60063).
13. *A model for AF-algebras and a representation of the Jones projections*, J. of Oper. Theory, **18** (1987),289-301.(M.R.89e:46079, Zbl 693.46054).
14. *N subspaces*, Canadian J. of Math., Vol **XL**, No.1,(1988), 38-54. (M.R.89i:46023, Zbl 656.46017).
15. *Monomials in the Jones projections*, Proc. Amer. math. Soc., **103** (1988),761-764. (M.R.89f:46119, Zbl 673.46040).
16. *Hypergroups and subfactors*, Proc. of a symposium on Operator Theory and Functional Analysis, Cochin (1989) 49-65. (M.R. 91 m: 46096, Zbl 718.46035).
17. (with R. Grone and R. Merris), *The Laplacean spectrum of a graph*, SIAM J. of Matrix Anal. and Applns., **11** (1990), 218-238.(M.R.91c:05130, Zbl 733.05060).
18. *Pairs of II_1 factors*, Proc. of the Indian Acad. of Sci. (Math. Sci.), **100** (1990), pp. 357-377. (M.R.:92b:46098, Zbl 727.46039).
19. *From von Neumann algebras to knot invariants - The work of Vaughan Jones*, Current Science, **59** (1990),1285-1292.
20. (with R.B. Bapat), *On hypergroups of matrices*, J. of Lin. and Multilin. Alg., **29** (1991), 125-140.(M.R.92k:20137, Zbl 734.20033).
21. *On commuting squares and subfactors*, J. of Functional Anal. **101** (1991), 286-311. (M.R.92j:46111, Zbl 739.46042).
22. *II_1 factors, their bimodules and hypergroups*, Trans. of the Amer. Math. Soc. **330** (1992), 227-256. (M.R. 92f:46076, Zbl 757.46053).
23. (with Klaus Thomsen), *Unitary orbits of self-adjoints in some C^* -algebras*, Houston J. of Math., **18** (1992). 127-138, (Special Volume dedicated to the memory of Domingo Herrero). (M.R. 93e:46071, Zbl 812.46057).

24. *From hypergroups to subfactors*, Operator Algebras and Operator Theory, Ed. W. Arveson et al, Proceedings of OATE 2 conference, Romania 1989, Pitman Research Notes in Mathematics, Longman Scientific, Essex, UK, 1992, pp. 198-216. (M.R. 93m:46074, Zbl 792.46045).
25. (with A.K. Vijayarajan), *On the non-occurrence of the Coxeter graphs β_{2n+1} , D_{2n+1} and E_7 as the principal graph invariant of an inclusion of II_1 factors*, Pacific J. of Math., **161** (1993),185-200. (M.R.94g:46067, Zbl 798.43005).
26. (with A. Rajarama Bhat and V. Pati) *On some convex sets and their extreme points*, Math. Annalen., **296** (1993),637-648. (M.R.94f:46076, Zbl 791.46006).
27. (with Uma Krishnan) *On principal graphs and weak duality*, Math. Scand., **74** (1994),49-63.(M.R.95i:46087, Zbl 809.05057).
28. *On the relation between subfactors and hypergroups*, Applications of hypergroups and related measure algebras, Contemp. Math., **183**, pp. 331-340, 1995.(M.R.96d:46087, Zbl 830.46053)
29. (with H. Araki and K.B. Sinha), *On boundedness and $\| \cdot \|_p$ -continuity of second quantisation*, Publ. Res. Inst. Math. Sci., Kyoto Univ., **31**, (1995), 941-952. (M.R.97j:81166, Zbl 848.47017).
30. *Knots*, Resonance, Vol. **1**, no. 7, (1996), 31-43.
31. *Notes on the imprimitivity theorem*, Analysis, Geometry and Probability, an expository volume brought out in honour of K.R. Parthasarathy), pp. 299-321, Hindustan Book Agency, Delhi, 1996. (M.R.98k:22027, Zbl 949.22007).
32. (with Uma Krishnan and Cherian Varughese), *On some subfactors of integer index arising from vertex models*, J. Functional Analysis, **140** (1996), 449-471.(M.R.97j:46066, Zbl 899.46049).
33. (with Uma Krishnan), *On biunitary permutation matrices and some subfactors of index 9*, Trans. of the Amer. Math. Soc., **348** (1996), 4691-4736. (M.R. 97c:46077, Zbl 862.46035).
34. (with N.J. Wildberger), *Actions of finite hypergroups and examples*, International Conference on Harmonic Analysis, Trends in Mathematics, Birkhauser, pp. 145-163, 1997. (M.R. 99c:43011, Zbl 885.43005)
35. (with M. Krishna), *Schrödinger operators with fairly arbitrary spectral features*, Rev. Math. Phys., **19** (1997), 343-360); (also circulated as Erwin Schrodinger Institute Preprint #305.) (M.R.98d:47100, Zbl 879.34081).
36. (with K.R. Parthasarathy), *Exponentials of indicator functions are total in the Boson Fock space $\Gamma(L^2[0, 1])$* , Quantum Probability Communications, Vol. X, (1998), 281-284. (M.R.2000j:81136)

37. *Commuting Squares*, The Mathematics Student, **67**, nos. 1-4, (1998), 65-72.
38. (with N.J. Wildberger), *Fusion Rule Algebras and Walks on Graphs*, The Proceedings of the Fifth Ramanujan Symposium on Harmonic Analysis, Ed. K. Parthasarathy, Publ. of the Ramanujan Inst., No. 6, 53-80, (1999).
39. (with Vijay Kodiyalam), *The subgroup-subfactor*, Math. Scand., **86**, (2000), 45-74. (M.R.2001b:46103, Zbl 991.60290).
40. *Some aspects of convexity*, Lecture Notes on aspects of nonlinear, functional and applicable analysis, pp. 1-20, Indian Inst. of Tech., 1998; and reprinted (in slightly revised form, and in two parts) in Resonance, **5**, no.6, (2000), 49-59, and **5**, no, 7, (2000),8-16. (M.R. 99h:46005, Zbl 934.46070)
41. (with Vijay Kodiyalam and R. Srinivasan), *The algebra of G-relations*, Proc. of the Indian Acad. Sci. (Math. Sci.), **110**, (2000), 263-292. (MR. 2001k:16019, Zbl 992.16015).
42. (with Vijay Kodiyalam), *Spectra of principal graphs*, International Journal of Mathematics, **12**, (2001), 203-210. (M.R.2002b:46101.)
43. (with Vijay Kodiyalam), *Flatness and fusion coefficients*, Pacific Journal of Mathematics, **201**, (2001), 177-204. (M.R. 2002k:46162, Zbl 1054.46514.)
44. (with Uma Krishnan), *On biunitary permutation matrices and some subfactors of index 9*, Trans. of the Amer. Math. Soc., **348** (1996), 4691-4736. (M.R. 97c:46077, Zbl 862.46035).
45. (with R. Srinivasan and Norman Wildberger), *Discrete series of fusion algebras*, J. of Aust. Math. Soc., **72**, (2002), 419-425. (M.R. 2003d:46080, Zbl 1026.46050.)
46. (with Zeph Landau) *Planar depth and planar subalgebras*, J. of Functional Analysis, **195**, (2002), 71-88. (M.R. 2003j:46096, Zbl 1030.46078.)
47. *On trace zero matrices*, Resonance, **7**, No.6, (2002), 14-26.
48. (with Norman Wildberger), *Actions of finite hypergroups*, J. of Algebraic Combinatorics, **18**(2), (2003), 135-151. (M.R. 2004g:20092)
49. (with Vijay Kodiyalam and Zeph Landau), *The planar algebra associated to a Kac algebra*, Proc. of the Indian Acad. Sci. (Math. Sci.), **113**, (2003), 15-51. (M.R. 2004d:46075, Zbl 1039.46049)
50. (with Sumant Datt and Vijay Kodiyalam), *Complete invariants for complex semisimple Hopf algebras*, Math. Research Letters, **10**, No. 5-6, (2003), 571-587. (M.R. 2004k:16099)
51. (with Vijay Kodiyalam), *On Jones' planar algebras*, Journal of Knot Theory and its Ramifications, **13**, No. 2(March), (2004), 219-248. (M.R. 2005e:46119, Zbl 1054.46045.)

52. (with Vijay Kodiyalam) *A complete family of numerical invariants for a subfactor*, J. of Functional Analysis, **212**, 1-27, 2004. (M.R. 2005e:46118, Zbl pre02105577.)
53. (with M.G. Nadkarni), *Hamel bases and measurability*, Mathematics Newsletter, vol. **14**, No. 3, (2004).
54. (with Vijay Kodiyalam) *The planar algebra of a semisimple and cosemisimple Hopf algebra*, Proc. of the Ind. Acad. of Sci., Math. Sciences, vol. **116** no. 4, (2006), 443-458; and e-print arXiv math.QA/0506153.
55. *von Neumann Algebras: Introduction, modular theory and classification theory*, Encyclopedia of Math. Physics, eds. J.-P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006 (ISBN 978-0-1251-2666-3), vol **5** pp. 379-385.
56. (with Vijay Kodiyalam and Vishwambhar Pati), *Subfactors and 1+1-dimensional TQFTs*, International Journal of Mathematics, Vol. **18**, No. 1 (2007) 69-112, e-print arXiv math.QA/0507050.
57. *Paul Halmos - Expositor par excellence*, Resonance, (2007), Volume **12**, Number 2, 17-28.
58. (with Vijay Kodiyalam), *Temperley-Lieb and Non-crossing Partition planar algebras*, Noncommutative Rings, Group Rings, Diagram Algebras and Their Applications Edited by: S. K. Jain, Ohio University, Athens, OH, and S. Parvathi, University of Madras, Chennai, India, Contemp. Math., Vol. **456**, (2008), 61 - 72.
59. *The Riesz representation theorem*, Indian J. of Pure and Applied Math., **39**(6), December 2008, 467-481.
60. (with S. Jijo), *Kač algebras, quantum doubles and planar algebras*, Contemporary Math. Vol. Contemporary Math. Vol. **490**, 97-104, (2009).
61. *von Neumann Algebras and Ergodic Theory* in 'Perspectives in Mathematical Sciences II, Pure Mathematics', World Scientific, June 2009.
62. *von Neumann algebras and free probability*, Mathematics Newsletter of the Ramanujan Mathematical Society, Vol. **19**, No. 1, pp. 7-9, June 2009.
63. (with Vijay Kodiyalam) *From subfactor planar algebras to planar algebras*, Internat. J. Math., vol. **20**, No. 10, pp. 1207-1231, 2009.
64. (with Vijay Kodiyalam) *Guionnet-Jones-Shlyakhtenko subfactors associated to finite-dimensional Kač algebras*, Journal of Functional Analysis, Vol. **257**, 3930-3948, (2009), and e-print arXiv math.OA/0901.3180.
65. *Double cones are intervals*, Operator Theory: Advances and Applications, Vol. **207**, 359-362, Springer-Basel AG, 2010.

66. (with Vijay Kodiyalam) *Planar algebras and Kuperberg's 3-manifold invariant*, Journal of Operator Theory, vol. **63**, No. 1, (2010), 101-122, and e-print arXiv math.QA/0509302.
67. (with Vijay Kodiyalam) *On the Guionnet-Jones-Shlyakhtenko construction for graphs*, Journal of Functional Analysis, **260** (2011) 2635 - 2673; and e-print arXiv math.OA/0911.2047
68. *Israel Moiseevich Gelfand, (1913 - 2009)*, Resonance, Vol. **16** No. 2, 165-179 (2011).
69. (with Panchugopal Bikram, Kunal Mukherjee and R. Srinivasan) *Hilbert von Neumann modules*, (special issue of) Communications in Stochastic Analysis (in honour of Professor K. R. Parthasarathy), vol. **6**, no. 1, (March 2012), and e-print arXiv:1102.4663 [math. OA].
70. (with Madhushree Basu and Vijay Kodiyalam) *From graphs to free products*, Proc. (MathSci) of the Indian Acad. of Sciences, Vol. **122**, No. **4**, November 2012, 547-560; and e-print arXiv:1102.4413 [math. OA].
71. (with Panchugopal Bikram, Masaki Izumi and R. Srinivasan), *On extendability of endomorphisms and of E_0 -semigroups on factors*, Kyushu Journal of Mathematics, **68**, no. 1, pp. 165-179, (2014).
72. (with Madhushree Basu) *Continuous minimax theorems*, Operator Algebras and Mathematical Physics, 24th International Workshop in Operator Theory and its Applications, Bangalore, December 2013, Editors: Bhattacharyya, Tirthankar, Ditschel, Michael A. (Eds.), Vol. 247, pp. 37-56, Springer, Switzerland, (2015).
73. *Fuglede's Theorem*, Indian J. of Pure and Applied Math, Volume **46**, Issue 4, pp 415-417 August 2015.
74. (with K. Sumesh), *A tensor-analogue of the Schur product*, Positivity, October, 2015, pp 1-4.
75. *Operator Algebras in India in the Past Decade*, Indian J. of Pure and Applied Math, (to appear).

Ph.D. students advised:

1. A.K. Vijayarajan, *Hypergroups, Graphs and Subfactors*, Indian Statistical Institute, 1993; now on the faculty of KSOM, Kozhikode.
2. Uma Krishnan, *Commuting Squares and Principal Graphs of Subfactors*, Indian Statistical Institute, 1994; not doing math any more.
3. R. Srinivasan, *Connections on small vertex models*, Indian Statistical Institute, 2000; now on the faculty of CMI, Chennai.

4. Shamindra Kumar Ghosh, *On Planar Algebras and Representations of the Annular Category over a Planar Algebra*, Indian Statistical Institute, 2004; now on the faculty of ISI Kolkata.
5. Ved Prakash Gupta, *Planar Algebra of the subgroup-subfactor*, Homi Bhabha National Institute, 2008; now on the faculty of JNU, New Delhi.
6. S. Jijo, *Planar algebra associated to the Asymptotic inclusion of a Kac algebra subfactor*, 2008; now on the faculty of TKMM College, Kerala.
7. Madhusree Basu, *Probability and von Neumann algebras*, Homi Bhabha National Institute, 2013; not doing math any more.
8. Panchugopal Bikram, *Extendable Endomorphisms of Factors*, Homi Bhabha National Institute, 2013; now on the faculty of NISER, Bhubhaneswar.
9. Keshab Chandra Bakshi, *Intermediate subfactors*, Homi Bhabha National Institute, 2017; now on a post-doc. position at CMI, Chennai.

Referees familiar with my work :

1. Fred Goodman, Math. Department, University of Iowa, Iowa City, intermediate Subfactors2, USA.
2. Sorin Popa, Math. Department, University of California at Los Angeles, CA 90095, USA.
3. Vaughan Jones, Math. Department, University of California at Berkeley, USA.
4. Adrian Ocneanu, Math. Department, Penn. State University, State College, PA. 16802, USA.
5. Hans Wenzl, Math Department, University of California at San Diego, USA